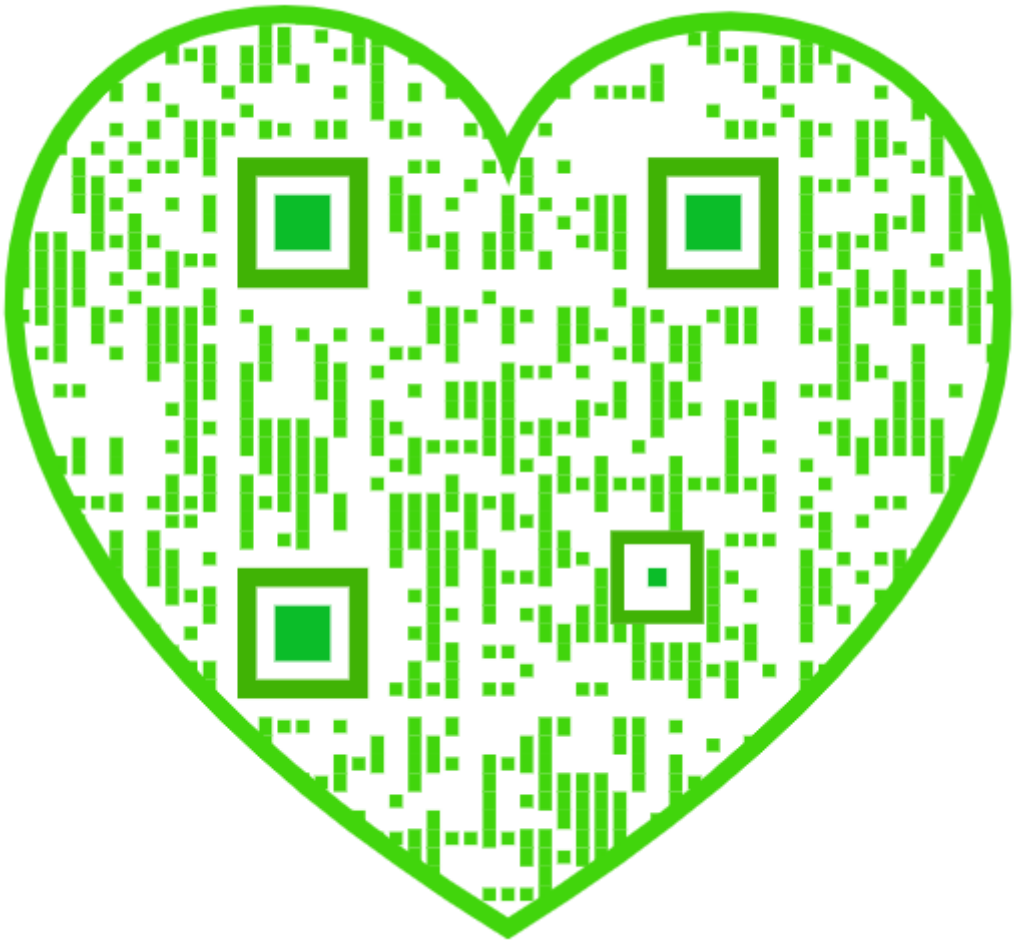
UMASS/AMHERST
312066 0333 3315 2



LIBRARY
OF THE

MASSACHUSETTS
AGRICULTURAL
COLLEGE

SOUR

THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

EDITED BY

THOMAS WM. COWAN, F.G.S., F.L.S., F.R.M.S., &c.

AND

J. HERROD-HEMPSALL, F.E.S.

VOLUME XLVII.

JANUARY-DECEMBER, 1919.

PUBLISHED BY

SIMPKIN, MARSHALL, HAMILTON, KENT & CO., LIMITED,
31-32, PATERNOSTER ROW, E.C.

LIBRARY
UNIVERSITY OF
MASSACHUSETTS
AMHERST, MASS.

INDEX.

EDITORIALS :—
Advertisers, To, 429
Bee Diseases, 153
Bee-Keeper's Appeal, A, 237
Bee-Keepers' Association, 165, 477, 489
Bee Legislation, 549
Christmas Greetings, 573
Control, Swarm, 177
Conversazione, 453
Cornwall, Bee Re-Stocking in, 321
Correction, A, 5
Deposit System, Use of the, 273, 297
Development of the Apis Club, 573
Diseases, Bee, 153
Forming Nuclei, 21
Frames and Hives, 393
Greeting, 1
Help for Ex-Service Men, 309
Honey Competition, 417
Increase, Working for, 45
Legislation, 501, 513
Metal Comb, The, 525
Monmouthshire, Bee-Keeping in, 313
Notice, 573
Petition for Legislation, 105
Queens taking an Airing, 561
Roll of Honour, 53
Royal Show, The, 201, 213, 225, 237
Seasonable Hints, 13, 65, 93, 141, 189, 249, 285, 345, 369, 405, 465
Sending Cash by Post, 73
Showing Hint, A, 357
Size of the Journal, The, 129
Shows, 381
Soldier or Sailor, Bees for, 261
Strike and the BRITISH BEE-KEEPERS' JOURNAL, 441
Suburbia, Bee-Keeping Activity in, 117
Swarm Control, 177
West of Scotland Agricultural College, 525

AMONG THE BEES :—
Brushing Bees, 286
Cleanliness, 262
Controlling Swarming, 262
Flour in the Apiary, 286
Food for Bees, 108
Introducing Queens, 286
Making Syrup, 262
Stimulation, 286
Swarm Prevention, 262

ASSOCIATION NEWS :—
Beverley and District, 266
Bournemouth, 279
Cambridge and District, 518
Cardigan and District, 241
Carmarthenshire, 482
Chesham and District, 219, 408
Corsham and District, 209
Derbyshire, 337

ASSOCIATION NEWS—*Cont.*
Doncaster and District, 254, 301, 552
Glasgow and District, 41, 482, 511
Gloucestershire, 278, 519
Hants and Isle of Wight, 384
Kent, 220, 265, 300, 433
Leicestershire and Rutland, 519, 568
Monmouthshire, 349
Norfolk, 241
Portsmouth and District, 337
Salisbury and District, 301
Sheffield and District, 159, 209, 568
Somerset, 574
South Staffs and District, 232
Staffordshire, 57, 290, 508
Twickenham and Thames Valley, 208, 323, 458, 510

BEE-KEEPERS' ASSOCIATIONS.—ANNUAL MEETINGS :—
Barnet and District, 146
Bucks County, 98
Carmarthenshire, 231
Cheshire, 146, 407
Derbyshire, 77
Devon, 169
Doncaster and District, 123
East of Scotland, 279
Glamorganshire, 58
Glasgow and District, 184
Hants and Isle of Wight, 58
Herefordshire, 58
Kent, 76, 408
Leicestershire and Rutland, 184
Middlesex, 567
Monmouthshire and District, 57
New Forest, 159
Northumberland, 133
Nottinghamshire, 84
Portsmouth and District, 425
Sheffield and District, 23
Somerset, 57
South Staffs and District, 78
Staffordshire, 23
Street and Glastonbury, 372
Sussex, 147
Warwickshire, 184, 410

BRITISH BEE-KEEPERS' ASSOCIATION —
Annual Meeting, 105
Conversazione, 165, 179, 190, 453, 477, 489, 502, 514
Lectures at Golders' Hill Park, 145, 153, 201, 213
Monthly Meeting of Council, 1, 50, 66, 106, 153, 201, 285, 334, 417, 465

COMBS FROM OTHER HIVES :—
Australian Wine and Honey Bee, 559
Bees and Flower Fertilisation, 533
Bee-Keeping and Health, 292
Bee-Keeping as a Side Line, 450
Bees' Care for Injured Queen, 461

COMBS FROM OTHER HIVES—*Cont.*
Beeswax as a Seal for Bottling Fruit, 209
Egg-Laying Powers of a Queen, 243
Gingerbread, 559
Hearing Sense of Bees, The, 242
Infernal Machine of the Honey-Bee, 241
Mating Queens over Colonies, 243
Moths, 388
Observations Made with Blind Bees, 243
Queen Efficiency, 9
Reply to a Question, 87
Source of Confusion, A, 352
Swarm, The (poem), 317
Those Prolific Strains, 255
To Bee or Not to Bee ? (poem), 497
Trial of a System of Keeping Two Queens in a Hive, 281
West Indian Notes, 241

CORRESPONDENCE :—
Advertisers, Dealing with, 350
Advertising Medium, The JOURNAL as an, 256
Alcohol, Experiments with, 375
American Recipes, Definition of "Cupful" in, 448
Another Amateur, Experiences with, 401
Another "Frame" of Mind, The "Hardy Annual," 445
Appeal, A Bee-Keeper's, 233
Appeal, An, 161
Appliances, Prices of, 114
Are the Honey Shows Dead ? 266
Build Comb in Winter ? Do Bees, 312
Bee Culture, International, 315
Bee Culture, The Scope of, 135
Bee Diseases, 232
Bee-Keeper, Difficulties of a, 291
Bee-Keeper, My Difficulties as a, 279
Bee-Keeping, Notes on, 495
Bee-Keeping, Profitable, 385
Bee Legislation, 554, 569, 575
Bees and Honey, Prices and, 185
Bees, Dutch, 11, 90
Bees Fly, Direction, 436, 459
Bees, Fungus Diseases of, 411
Bees, Intoxicated, 126
Bees, Lazy, 363
Bees, Medicated Food for, 520
Bees, Native *v.* Foreign, 445
Bees, Procedure of, 35
Bees, Stingless, 43
Bees, Swiss, 291
Bees, "Tanging," 485, 531
Bees Transferring Stores, 569
Bees, Wintering, 70, 88, 114, 134, 185
Behaviour of Bees, Curious, 435
Breeding, Autumn, 436
Brood Chambers, Raising, 386
Brood Hatching Chamber, The, 575
Candy, Syrup *v.*, 91

CORRESPONDENCE—*Cont.*
Case Against Legislation, The, 553
Cause, The Predisposing, 233
Combs, *Re* Braced, 267
Comments, Notes and, 37
Control, Swarm, 373
Cumberland, A Note from, 372
"Dancing" on the Brood, Bees, 171
Deposit System, Use of the, 326
"Different Angle, Looking from a," 125
Difficulties, Queen Introduction, 303
Disease, Candy and, 327
Disease Cures, "Isle of Wight," 351
Disease, Overcrowding and, 160
Diseases Bill, Bees, 69
Disinfectant, Bleaching Powder as a, 304
Disinfectant, Chloride of Lime as a, 316
Drones ? Early, 4
Earwigs, Remedy for, 80
English Climate, Bee-Keepers' Association and, 448
Entrance to Supers, Direct, 221, 267
Fact, A Curious, 12
Floorboards, Hygienic, 98
Foul-Brood, The Eradication of, 171
Frame, The Standard, 521
Frame Hives, Standard *v.* Shallow, 399
Frames, 363, 398, 411, 435, 446, 459, 472, 485
Frames, Further Remarks on, 493
Frames, Remarks on, 493
Frames, Size of, 412
Frames, Standard *v.* Shallow, 365
France, Among the Bees in, 17
Fresh Air, *Re* "Isle of Wight" Disease and, 244, 302
From the West Notes, 113
Germ Carriers, Queens as, 232
Hive Design, Frame and, 398
Hive, The Insulated, 99
Honey-Bee, The Return of the, 400
Honey, Packing, 125
Honey Plant, Chapman, 42. 79
Honey, Price of, 486
Hornets *v.* Bees, 304
Imported Nuclei, Home *v.*, 89
Incidents, Puzzling, 436
Infection, Cause of 26
"Isle of Wight" Disease, 303, 327, 447, 522
"Isle of Wight" Disease, Advice Wanted *re*, 61
"Isle of Wight" Disease, Bee-Keeping and, 413
"Isle of Wight" Disease, Care of Bees and, 210
"Isle of Wight" Disease, Cause of, 245
"Isle of Wight" Disease, Damp Winds and, 173
"Isle of Wight" Disease Eliminating, 49
"Isle of Wight" Disease, Overworked Queens and, 255
"Isle of Wight" Disease, Re-Queening and, 374
"Isle of Wight" Disease, Re-Queening for, 365
"Isle of Wight" Disease, Spring Feeding and, 171
"Isle of Wight" Disease, Sulphur Fumes and, 387
"Isle of Wight" Disease, Symptoms of, 3, 20
"Isle of Wight" Disease, Two-Years-Old Queens and, 42

CORRESPONDENCE—*Cont.*
"Isle of Wight" Disease, Wax Secreting and, 161
JOURNAL, Support your, 473
Keep Clear of Disease, How to, 159
Key, Lock and, 446
Large Frames at the Heather, 557
Larger Frames, Standard Hives and, 400
Legislation, 485
Legislation, A Case for, 171
Legislation, Bee, 529
Live Association for Berks, Wanted, 34
Loss Among Bees, Causes of, 209
Loss of Stamina, Overworked Queens and. 172
Mate in the Hive, Do Queens, 197
Mating inside the Hive, Queens, 173
Mating more than once, Queens, 19
Meeting of Bee-Keepers, Wanted a, 17, 34
Monmouthshire, A Note from, 460
Move on, Get a, 11, 18
Neglected Bees, Healthy, 35
Notes and Queries, A Novice's, 100
Novice, Observations of a, 42
Nuclei, Forming, 339, 351
Nuclei, Making, 69
October, Queen Raising in, 483
Other Matters, Frames and, 387
Other Sources of Infection, Skeps and, 43
Perpetuated How Disease is. 69
Prevent Disease, Fresh Air to, 220, 244
Production, Increasing, 221
Profiteering ? Co-operation or, 52, 62, 88, 99, 100, 112, 137
Protest, A Novice's, 493
Puzzle, A Re-Queening, 386
Queen Leaving Hive, 557
"Tee" Tree, Botanical Name of, 483
Thanks, A Bee-keeper's, 411
Troubles, More Bee-keeping, 413
Two-year-old Queens, A Plea for, 52, 92
Ventilation, 386
Wanted, Expert Advice, 388
Wax Extracting. Commercial, 233, 245
West, Notes from the, 520
"Yoicks," 484

CRITICAL COMMENTS :—
Aluminium Comb, The, 204
Artificial Heat, Again ! 251
Bee Feeding in Autumn, 183
Blunders of British Bee-Keepers' Association, The, 21
Can Bees Hear ? Who Knows ? 216
Care of Bees and "Isle of Wight" Disease, 215
Damp Hives, 203
Daring Suicide, A, 217
Egyptian Bee, The, 130
Eradication of Foul Brood, The, 143
Exclusion of Avitaminosis, The, 203
Experiments with Apparently Dead or Dying Bees, 144
Foraging and the Nectar Aroma, 216
Hoarse Voice, The, 192
Hygienic Floor-Board, 131
Incubating, or Brood-Hatching Chamber, 118
Legislation, 251
Microscopical Studies, 132

CRITICAL COMMENTS—*Cont.*
Our Degenerate Queens, 191
Overworked Queens and Loss of Stamina, 204
Queen Mating within the Hive, 204
Queen Mating without Flight. 132
Safe Queen Introduction, 131
Selection of Bee Strains, 217
Senile Decay, 192
Wax Secretion and Disease, 180
Wintering Bees, 109, 181

HOMES OF THE HONEY BEE :—
Abell, B. T., 528

JOTTINGS :—
Brood-Hatching Chamber, 86, 196
Difficulties of a Bee Keeper, 314
Dummies, 158
Eastern Bee Keeping, 218
Excessive Swarming, and putting them back, 371
Extracting, 317
Fertile Workers, 315
Hope Deferred, 317
Moving Bees, 315
Kindred Spirits, 254
Loss of Stamina, 253
Life of Comb, 218
Pleasures and Trials, 315
Procedure of Bees, 218
Putting 'em back, 315
Standard *v.* Shallow, 443
Surrey Bee-keepers' Association, 254, 315
Telling the Bees, 254
That Skep, 157
Top Bar, 15 in. *v.* 17 in., 443
Travelling Swarm Box, 158
War-Work, 253
Way-Room of Excluders, 442
Who Should be Bee-keepers, 317
Wiring Frames, 254
Yellow Thieves, 254

NOTES ON "ISLE OF WIGHT" DISEASE :—
Great Object of Life, The, 48
Hygiene of the Hive, The, 48
Ideal Hive, The, 82
Notes, 7
Opposition to Legislation, The 31
Sanitation of the Apiary, The, 38
Selective Breeding, 24
State Supervision, 14
Types and Causes, 155

NOTICES TO CORRESPONDENTS :—
Appearance of Brood of Unmated Queen, 138
Artificial Swarming, 36
Bees and Spraying Fruit Trees, 535
Bees Balling Queen, 234
Bees Collecting Grease, 17
Bees Dead on Drying Flannels, 28
Bees Expelling Drones, 197
Bees Hovering round Entrance, 304
Bees in Box Hive, 437
Bees Killing Drones, 234
Bees refusing to Work in Sections, 328
Bees Soiling Alighting Board, 138
Bees Underground, 377
Best time for making Nuclei, 71
Brood Combs built together, 71
Brood in Winter, 36
Can Queen Pass through Porter Bee Escape ? 71
Close Spacing Combs, 222
Clover for Bees, 102
Coloured Illustrations of Honey Bee 474

NOTICES TO CORRESPONDENTS—*Con*
Commencing Bee-Keeping, 377
Creosote for Hives, 44
Cutting Comb to obtain Queen Cells, 161
Dead Queens Thrown Out, 257
Dealing with Skep, 197
Dealing with Vicious Bees, 437
Direct Queen Introduction Method, 377
Disinfecting Hives, 44, 149
Disinfecting Shallow Combs, 222
Dismembered Bees in front of Hive, 197
Dividing Colony 304
Effect of a Fertile Worker, 535
Extending the Brood Nest, 377
Feeding Bees in Boxes, 115
Feeding Bees in Skeps, 571
Feeding Honey to Bees in Winter, 474
Forming Nuclei, 44
Getting Thick Honey out of Combs, 44
Giving more Ventilation, 463
Grains of Sugar at Hive Entrance, 463
Granulation of Honey, 535
Guaranteeing Bees to be Healthy, 102
Hives, Painting 101
Insurance against Risk, 71
Insurance of Bees, 102
Italian-Dutch Hybrids, 161
Italianising an Apiary, 80
Keeping Bees in an Attic, 462
Keeping Bees Indoors, 474
Keeping Bees on Infected Ground, 437
Keeping Spare Brood Combs 28
Late Flowering Plants for Bees, 186
Making Candy, 80, 102
Making Increase, 292
Making Increase from Box Hive or Skep, 138
Making Nucleus, 71
Making Observatory Hives, 328
Making Soft Candy, 535
Micro Slides of *Nosema Apis*, 20
Moving Bees, 186, 474
Moving Bees late in November, 377
Moving Bees to the Heather, 292, 328
Native *v.* Italian Drones. 328
Number of Combs for Winter, 389
Painting Hives, 101
Painting Inside Hive 28
Placing Hives in Orchard with Poultry, 234
Plans for making W.B.C. Hive, 20
Platform for Hives, 161
Position of Hive, 44
Potassium Cyanide, Using Honey after Bees have been killed with, 70
Powder in Combs, 20
Price of Honey, 234
Price of Swarms, 186
Purchasing Bees abroad, 20
Putting Queen Cells in Nuclei, 232
Questions for Preliminary Exams. 463
Quantity of Heather needed for Surplus, 28
Quantity of Sugar needed for Driven Bees, 71
Queen not Laying, 186
Queens, Overworked, 326
Rearing Queens from Eggs, 44
Reason for Replacing Dutch Queens, 197
Removing Bees from a Chimney, 293
Removing Bees from Hollow Tree, 36

NOTICES TO CORRESPONDENTS—*Con*
Removing Mouldy Pollen from Combs, 149
Rhodendron and Laurel Honey, 559
Rubber Gloves as Protection from Stings, 80
Spraying Fruit Trees, 44
Storing Honey in a Galvanised Vessel, 377
Sugar Samples, 71
Suitable Food for Bees, 463
Sulphur for Fumigating Hives, 234
Sulphur Fumes for "Isle of Wight" Disease. 328
Swarm Deserting Hive, 269
Swarm Deserting Skep, 256
Swarm Returning to Parent Hive, 234
Taking Bees from a heap of old Turves, 389
Teak for Observatory Hive, 559
Transferring Bees from Skep to Frame Hive, 293
Transferrring Bees Overseas, 269
Two Queens in One Hive, 222
Uniting Bees, 115
Use of Rymer Honey Board, 377
Using Fermented Honey, 269
Using Microscope to detect "Isle of Wight" Disease, 377
Using Swarm Catcher, 462
Using Weed Killer, 304
Utilising Driven Bees. 389
Will Old or Young Queen survive a Duel, 222
Wintering Bees in two Brood Chambers, 437
Working for Increase, 222
Working Skep, Moving and, 70

OBITUARY NOTICES:—
Benton, Frank. 213
Birch, Mrs. E. A., 333
Hillier, Mr., 309
Wilson, Mr. J., 1

QUERIES AND REPLIES:—
Artificial Swarms, Making. 36
Bees, Coloured Chart of, 366
Bees, Swiss, 351
Damaged Combs, Removing, 339
Excessive Swarming, 340
Good for Bees? Is Pink Candy, 292
Hornets *v.* Bees, 280
Identification of Insects, 268
Leaving Hive, Queen, 535
Metal Comb Cutting Queen Cells from, 462
Not Hatching Eggs, 340
Puzzle, A Re-Queening, 377
Recipe Quantities, Honey, 101
Re-Queening, 340
Swarm Deserting Brood, 268
Swarm in a Skep, Dealing with a, 280

REPRINT OF ARTICLES BY "LORDSWOOD":—
An Up-to-date Bee-keeper, 456
Bees and Bob-howlers, 456
"Condemned" Bees, 495
Echinops Sphœrocephalus, 532
For the Bee's Sake, 496
Philosophy, 531
The Drone Fly, 558

REVIEWS:—
"Bee Craft," 558
"Bee World," 393, 490

———

Advertisers, To, 429
Altrincham Show, 444
Altrincham Show, Demonstrations at, 405

Amateur Some Experiences of an, 360
Among the Bees in France, 17
An Appeal, 161
Appreciation from a Returned Soldier 280
Are the Honey Shows Dead? 241, 364
Australian Apiculture Students, To, 208, 218
Autumn Breeding, 436

Bath Bee-Keeper's Claim, 470
Bee Club, Boys' School, 29
Bee Diseases, 153
Bee Diseases Bill, The, 69
Bee Food, Rationing of, 5
Bee Food, Sugar for, 347
Bee Garden, A Shropshire, 362
Bee Garden, The, 56, 298, 371
Bee Industry, The, 419
Bee-Keepers and "Isle of Wight" Disease, 413
Bee-Keepers' Association and our English Climate, 448
Bee Keeper's Appeal, A, 233, 237, 249, 261
Bee-Keeper's Libel Action, A, 142
Bee-Keepers, Meeting of, 47
Bee-Keepers, Sugar for 309
Bee-Keeper's Thanks, A, 411
Bee-Keeping Activity in Suburbia, 117
Bee-Keeping in Scotland, 54, 551
Bee-keeping Notes on, 565
Bee-Keeping Revival, 278
Becitis, 311
Bee Legislation, 529, 549, 554, 569, 575
Bee Re-Stocking in Cornwall, 321
Bee Schemes, Food Production, 16
Bee, The, 10
Bees "Dancing" on the Brood, 171
Bees, Lazy, 348, 363
Bees, Notes on, 566
Bees Working on Red Clover, 386
Beverley Bee-Keepers, 168
Bleaching Powder as a Disinfectant, 304
Botanical name of "Tee" Tree, 483
British Bee-Keepers' Association, 81, 133
Brood Hatching Chamber, 566, 575
Bromley, Honey Show at, 424
Buckfast Abbey Apiary, A Visit to, 313
Build up Nuclei, How to, 287
Busy Bee, The, 28

Cake, Honey Sponge, 563
Candy, 506
Candy and Disease, 327
Cannock and District Horticultural Show, 383
Caramels, Honey, 78
Care of Bees, and "Isle of Wight" Disease, 210
Care of Bees, The, 470
Case for Legislation, A., 171
Cause of Infection, 26, 50
Cause of "Isle of Wight" Disease, 245
Causes of Loss among Bees, 209
Chapman Honey Plant, The Value of, 23, 42, 79
Cheshire Comments, 397
Chloride of Lime as a Disinfectant, 316
Coloured Chart of Bees, 366
Combs, Fumigating, 321
Commercial Wax Extracting 233, 245
Control, Swarm, 177
Co-operation or Profiteering? 52, 62, 88, 99, 100, 112, 137
Correction, A, 5

"Cupful," Definition of, 448
Curious Behaviour of Bees, 435
Curious Fact, A., 12
Cutting Queen Cells from Metal Comb, 462
Dairy Show, The, 481
Damp Winds and "Isle of Wight" Disease, 173
Dead or Dying Bees, Experiments with Apparently, 111, 227
Dealing with Advertisers, 350
Dealing with Swarm in a Skep, 280
Definition of "Cupful" in American Recipes, 448
Demonstrations at Shows, 401
Deposit System, Use of the, 273, 297
Derbyshire, Bee Notes from, 517 527
Difficulties of a Bee-Keeper, 291
Direct Entrance to Supers, 221, 267
Direction Bees Fly, 437, 459
Disappointment. The Honey Harvest—A, 455
Disclaimer, A, 393
Disease is Perpetuated, How, 69
Do Bees Build Comb in Winter? 3, 12
Do Bees sacrifice themselves? 277
Doings of Deborah, The, 40
Dominion of Canada Department of Agriculture, 240
Dorset Yarn, A, 2, 5, 13, 22, 30, 37, 46, 53, 65, 73, 81, 93, 107, 117, 129, 141, 154, 167, 178, 189, 201, 214, 225, 237, 249, 334, 345, 357, 369, 381, 394, 405, 441, 453, 480, 490, 503 525, 561
Do Queens Mate in the Hive? 197
Durham County, Bee-Keeping in, 169
Dutch Bees, 11, 90
Early Drones, 41
Early History of Bees and Honey, 461
Earwigs, Remedy for, 80
"Echoes from the Hives," 76
Eggs not Hatching, 340
Egyptian Bee, Notes on the, 96
Eisteddfod of Wales, The Royal National, 520
Eliminating "Isle of Wight" Disease, and Hatching the Brood in a Chicken Brooder, 449
Enthusiastic Bee-Keeper, Misfortune to an, 239
Eradication of Foul Brood, The, 170
Excessive Swarming 340, 460, 473
Exhibition, The Grocers', 298
Experiences of Another Amateur, 401
Experiments with Alcohol, 375
Expert Advice Wanted, 388
Ex-Service Men, Help for, 309
Extract from a Soldier's Letter, 90
Figures, Interesting, 154
First Report of a Swarm, 197
First Swarm, Our, 263
Forming Nuclei. 21, 339, 351
"Foul Brood," How to get rid of, 94
Frames, 363, 376, 398, 411, 435, 443, 446, 459, 467, 472, 485
Frames and Hive Design, 398
Frames and Hives, 393
Frames and other Matters, 387
Frames, Large at the Heather, 557
Frames, Sizes of, 337
Fresh Air to prevent Disease, 220, 244
Fruit Chocolates, Honey, 78
Fumigating Combs, 321
Fungus Diseases of Bees, 411
Further Remarks on Frames, 493
Greetings, 1
Get a Move on, 11, 18
Gingerbread, 559
Grocers' Exhibition, The, 298
"Hardy Annual," — Another "Frame" of Mind. The, 445
Healthy Neglected Bees, 35
Heather, Large Frames at the. 557
Hive Roofs, 138, 172
Hiving a Swarm, 316
Hive with Straw Sides, Wanted, 28
Holland, Bee-Keeping in, 359
Home versus Imported Nuclei, 89
Honey at Beds. Agricultural Show, 317
Honey Competition, 417
Honey Imports, 60. 94, 149, 197, 256, 363, 405, 471, 571
Honey Packing, 37
Honey Prices 298
Honey Recipes, 101, 559, 563
Honey Recipe Quantities, 101
Honey Section, the Romance of the, 74
Honey Shows Dead? Are the, 266
Honey Sponge Cake, 563
Honey Syrup for Bottling Fruit, 401
Hornets *v.* Bees, 280. 304
Hounslow, Bee-Keepers' Meeting at, 168
House of Commons, Bee-Keeping Questions in the, 301
How to keep clear of Disease, 159
Huntingdonshire, Jottings from, 289, 298, 312, 322, 336, 345, 357, 370, 381, 394, 306, 418, 429, 442, 453, 466, 491, 504, 515, 526, 549, 562
Hygienic Floorboards, 98
Increase, Working for, 45
Increasing Production, 221
India and Kashmir, Bees in, 205
Inflammation and Fevers, Old-fashioned Remedy for, 87
Insects, Identification of, 268
Insulator Hive, The, 99
International Bee Culture, 315
Intoxicated Bees, 126
"Isle of Wight Disease, 33, 48. 109, 447, 522
"Isle of Wight" Disease, Advice Wanted re, 61
"Isle of Wight" Disease and Fresh Air, 244, 302
"Isle of Wight" Disease, Another Remedy for, 265
"Isle of Wight" Disease, A Suggestion, 122, 229
"Isle of Wight" Disease Cures 351
"Isle of Wight" Disease, Skeps and, 6
"Isle of Wight" Disease, Wax Making and. 207
Is Pink Candy Good for Bees? 292
Italy, Queen Rearing in, 148
Japan, Bees and Bee-Keeping in, 455
Journal as Advertising Medium, The, 256
Keeping Ants from Hives, An American Method of, 455
Large Swarms, 327, 337, 350, 373
Lazy Bees, 348, 363
Legislation, 226, 485, 501, 513
Legislation, The Case Against, 553
Legislation, Petition for, 105
Letter from a Soldier in France, A, 11
Libel Action, A Bee-Keeper's, 142
Lock and Key, 446
"Looking from a Different Angle," 125
Making Artificial Swarms 36
Making Nuclei, 69
Mating of Queens, The, 338
Medicated Food for Bees, 520
Metal Comb, The, 525
Metal Comb and Metal Foundation, 561
Modern Bee-Keeping, The Revolution of, 419
More Bee-Keeping Troubles, 413
My Difficulties as a Bee-Keeper, 279
Native *v.* Foreign Bees, 445
"New Zealand Fruit Grower," Extract from the, 309, 422
Nosema Disease, 468
Note from a Soldier's Wife, A, 338
Note from Lancashire A, 396
Note from Monmouthshire, A, 460
Note from Somerset, 432
Notes and Comments, 27, 195, 231, 299
Notes and Notions, Bee, 238
Notes and Queries, A Novice's, 100
Note from a Reader in Belgium, 335
Note from Cumberland. A, 372
Note from Derbyshire, A, 382
Notes from Gretna Green, 158, 361, 432
Notes from South Wales, 194, 239, 264, 288, 395, 430
Note from Staines, A, 364
Notes from the West, 113, 274, 520
Notes on Bee-Keeping, 494, 516, 565
Notice, 2, 5, 350
Novelties of 1919, 350
Novice's Protest, A, 493
Nuisance, The Wasp, 322
Observations of a Novice, 42
Old Strains of Bees, 61
Opening for a Bee-Keeper, 52
Overcrowding and Disease, 160
Overworked Queens, 275, 326
Overworked Queens and "Isle of Wight" Disease, 255, 303, 327
Overworked Queens and Loss of Stamina, 172
Packing Honey, 125
Parson's "Bit," A, 47
Predisposing Cause, The, 233
Price of Sections, 373
Price of Appliances, 114
Price of Bees and Honey, 185
Prices, Honey, 298, 486
Procedure of Bees, 35
Profit on Bee Candy, 60
Profitable Bee-Keeping, 385
Puzzling Incidents, 436
Queens as Germ Carriers, 232
Queen Introduction Difficulties, 303
Queen Leaving Hive, 535, 557
Queens Mating Inside the Hive, 173
Queens Mating More than Once, 19
Queen Raising in October, 483
Questions for Self Examination, 3, 8, 16, 26, 33, 40, 51, 57, 67, 76, 84, 94, 112, 124, 134, 483, 492, 511, 533, 552
Queen Excluders, The Way-room of, 351
Queens, Mating of, 338
Rearing in Italy, Queen, 148
Raising Brood Chambers, 386
Re a Dorset Yarn, 261
Re Are Honey Shows Dead? 324
Re Bee Diseases, 232
Re Braced Combs, 267

Recipe, Honey, 101
Record Swarm, A, 30
Red Clover, Bees Working in, 386
Red Tape (Poem), 324
Re Dutch Bees Swarming, 338
Registration for Sugar, 393
Re Hives, 362
Re Large Swarms, 351
Remarks on Frames, 511
Removing Damaged Combs, 339
Report from Surrey, A, 374
Report of a Swarm, First, 197
Re-Queening, 340
Re-Queening for "Isle of Wight" Disease, 365, 374
Re-Queening Puzzle, A, 376, 386
Re-stocking Schemes, 299, 317
Re-stocking Scheme, Cheshire, 458
Re-stocking Scheme, Lancashire, 314
Returned Soldier, Appreciation from a, 280
Return of the Honey Bee, The, 400
Reviews, 393, 490, 558
Robbing, Aspect and, 86
Roofs, Hive, 138, 172
Roll of Honour, 5, 53
Romance of the Honey Section, The, 74
Royal Cornwall Show, 254
Royal Show, The, 211, 213, 225, 273
Royal Show, Donations for, 13, 21, 30, 37, 47, 66, 96, 107, 201, 213, 237, 297, 333
Ruined by Honey Slump, 327

Sailor's Wife, A Note from a, 338
Schemes, Re-stocking, 317
Scope of Bee Culture, The, 135
Scottish Bee-keeping Appointment, 278
Seasonable Hints, 13, 65, 93, 141, 189, 249, 285, 345, 369, 405, 465
Sections, Price of, 373
Sending Cash by Post, 73
Shropshire Garden, A, 433
Shows, 381
Shows Dead? Are Honey, 244, 324, 364
Shows, Demonstations at, 401
Showing Hint, 357
Size of Frames, 412
Size of the Journal, The, 129
Skeps and other Sources of Infection, 43, 89
Skep., That, 18, 62, 79, 90, 91, 101, 124, 184
Soldier in France, A Letter from a, 11
Soldier's Letter, Extract from a, 90
Soldier or Sailor, Bees for, 261, 285
Sources of Infection Skeps and, 89
Spring Feeding and "Isle of Wight" Disease, 171
Staffordshire Bee-Keepers' Association, 508
Staffordshire, Re-stocking in, 219
Staffordshire County Bee Re-stocking Scheme, The, 431
Staines, A Note from, 364
Standard Frame Hive, The, 521
Standard Hives and Larger Frames, 400
Standard *v.* Shallow Frames, 365
Standard *v.* Shallow Frame Hives, 399
Stingless Bees, 43
Stores, Bees Transferring, 569
Strains of Bees, Old, 61
Stray Notes, Comments and Questions, 407, 432, 469, 505, 550
Stray Swarms, Hiving, 79
Strike and the British Bee-keepers' Journal, 441
Sugar, Registration for, 393
Suburbia, Bee-keeping Activity in, 117
Sulphur Fumes for "Isle of Wight" Disease, 387
Surface Burns, Honey for, 455
Surrey, A Report from, 374
Swarm, A Record, 304
Swarm Control, 177, 373
Swarm Deserting Brood, 268
Swarm, Hiving a, 316
Swarms, Large, 327, 337, 350, 373
Swarms, Re Large, 351
Swarming, Excessive, 460, 473
Swarming, Re Dutch Bees, 338
Swarming Record, A, 523
Swiss Bees, 291, 351
Symptoms of "Isle of Wight" Disease, 20
Syrup *v.* Candy, 91
"Tanging," The Truth about, 573
That Skep, 18, 62, 79, 90, 91, 100, 124, 184
The Swarm, 496
Things Seen from the Farm, 497
Truro, Bee-keeping at, 485, 531
Truth about "Tanging," The, 573
Two Years, After, 16
Two Year Old Queens, and "Isle of Wight" Disease, 42
Two Year Old Queens, A Plea for, 9, 52, 92
Use of the Deposit System, 273, 297, 326
Ventilation, 386
Veteran's Experiences, A, 563
Wanted, A Meeting of Bee-Keepers, 17, 34
Wanted, A Live Association for Berks, 34
Wasp Nuisance, The, 322
Wasps at Week, 384
Wax Secreting and "Isle of Wight" Disease, 161
Way-room of Queen Excluder, The, 351
Weather Report, 12, 70, 87, 149, 185, 234, 340, 437, 483, 512
Weather Report for the Year, 1918, 20
West of Scotland Agricultural College, 525
Wickford Notes, 397
Wilts Bee-Keeping, 25
Wintering Bees, 70, 75, 88, 114, 134, 184
Working for Increase, 45
"Yoicks," 484
Your Journal, Support, 473

LIST OF CONTRIBUTORS.

Abushâly, A. Z., 7, 14, 24, 31, 38, 48, 67, 69, 82, 89, 109, 118, 130, 135, 143, 155, 180, 191, 203, 215, 251, 316, 419, 575
Allen, Dr., 91
Allen, Grace, 317, 450
Allen, N. A., 90
Allen, W., 520
Andrews, L., 317
Aske, V. S., 209
Atkinson, M., 443, 468, 473, 484

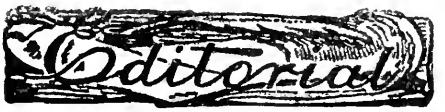
Baker, R. E., St. Barbe, 161
Barbour, Gina, 386
Barratt, G., 511
Bartlett, E. J., 279
Bebbington, P., 511
Beecroft, C. J., 493
Bell, M. Kennedy, 400
Benton, H. H., 461
Bennetts, W., 29
Berry, J., 557
Betts, Annie D., 411
Birkett, Rev. L. B., 12, 20, 70, 87, 149, 185, 437, 483, 512
Bonney, A. F., 242
Boobier, E., 41, 195, 239, 264, 288, 395, 430
Boothroyd, B., 483
Borgeaud, E., 87
Bott, M. E., 79
Bridge, A. M., 388
Briers, A., 148, 568
Broadhurst, W., 400
Brown, C. F., 401
Buck, S. A. A., 254
Buckton (Rev.), H., 281
Burtt, E. G., 412
Byatt (Miss), M., 511
Carr, W., 461
Caillas, Lieut. A., 96
Camm, W., 256, 280
Chadwick, P. C., 9
Charlton, F. B., 111, 221, 227, 277, 398, 493, 553
Cheyne, J. P., 12
Chitty, T., 337
Claridge, F. M., 27, 87, 88, 112
Clarke, A. J., 531
Clarke, G. J., 185, 365
Coates-Cook, N. F., 555
Cobb, T. F., 172, 255, 303
Collett, A., 377
Collier, C. B., 365
Collins, W. A., 208, 219
Corbett, Marie, 35, 339
Corney, H., 531
Cowlisham, T., 384
Cruickshank, R., 551
Dale, W. J., 244
Desmond, G. G., 16, 566
Drew, J., P., 244
Dutch (Capt.), R. H., 205
Edwards, R. L., 481
Ellis, J. M., 159, 361, 432
Ellison, G. M., 313
Ellison, H., 47
Ely, A., 386
Enthoven, Linda M., 327
Fleay, H. E., 279
Fordham, R. Oswald, 20, 88, 101, 304, 351, 363, 556
Franklin, E. W., 304, 458
Gale, Eleanor, 327
Garwell, W., 159, 209
Gough, L. H., 96
Graham, G. A., 535
Gray, A. F., 173
Gray, J., 232
Grey, T., 473
Gibbs, W. J., 171
Griffiths, W., 23, 67, 351
Grimshaw, A. C., 575
Grinstead, Whlr. P., 18
Halley (Rev.), A. H., 79
Hamshar, A. H., 86, 157, 196, 218, 314, 253, 372, 442
Harwood, A. F., 298, 370
Hawkins, E. G., 570
Hayes, G., 84
Hazell, C., 267
Heaven, W. A. R., 3
Hemming, D. G., 407, 432, 469, 505, 530, 551
Hemming (Rev.), E. F., 289, 312, 322, 336, 345, 357, 370, 381, 394, 406, 418, 429, 442, 453, 466, 491, 504, 516, 526, 549
Hewison (Rev.), G. H., 301, 552, 556
Hewitt, J., 529
Hiratsuka Yasuo, 455
Howett, W. S., 160
Hopkins, A. N., 101
Houston, Hugh, 349
Hunter, D., 197
Illingworth, L., 75, 91, 134, 44 473, 485

Ion, W., 86
Jackson, A., 460
Jackson (Miss), I. H., 325
Jacob, E. B., 373
Jacques, E., 7
James, E. L., 182
Jefferson, W. L., 171
Jeffery, E., 164
Jenkins, Muriel, 362, 433
Jenkinson, D.C.M., Sgt. H., 139
Jolly, H. F., 145, 483
Jones, H. L., 303
Jones, T., 366
Jones, T. Alun, 114, 125, 138, 274, 520
Keeping, H. H., 460
Kendall, K., 69
Kennedy, V. Shaw, 351
Kent, C. W., 374
Kettle, J. J., 2, 5, 13, 222, 30, 37, 46, 53, 65, 73, 81, 93, 107, 117, 129, 141, 154, 167, 178, 189, 201, 214, 225, 237, 249, 334, 345, 357, 369, 381, 394, 405, 441, 453, 480, 490, 503, 525, 561
Kidd, J. N., 449
Lea Wilson, L. M., 70
Ledger, E. F., 339
Lee, Jas., 569
Lilwall, W. P., 125
Littledale (Major), H. A. P., 161
Littler, S., 327
Litman, R., 233, 411, 435
Liverton, J. J., 398, 435, 472
Lordswood, 456, 495, 531, 558
Loveday, W., 511, 563
Lowe, E. E., 120
Lowe, M. G., 335
Lythgoe, P., 79, 124, 171, 303, 445, 494, 516, 554, 565
Macdonald, D. M., 74, 108, 154, 262, 286
Mace, H., 195, 231, 299
Manley, R. B., 11, 43, 70, 275, 326, 350, 363, 387, 411, 423, 446, 459, 485, 557
Mason, J. W., 530
McDonald (Rev), P., 388
Meakin, F., 78, 337
Metson, W., 11
Middleton, G., 304
Miles, E. S., 255
Miller, Dr., 388, 243
Mist, W., 291
Moir, J. W., 447
Moore, F. W., 486
Moses, E., 340
Mountney, W., 413
Nelson, J. H., 114
Nicholson, Jos. G., 79
Northampton, D., 340
Parsons, H., 399
Paul, F. F., 557
Pearman, J., 266
Peirce, H. B., 3, 17, 47
Penna, E., 149, 393
Peters, T. E., 311
Phillips (Miss), E. D. L., 387
Pinder, J. E., 25
Preston, A., 231
Price, J., 33, 50, 239
Prior, W. H. J., 445
Puck, O. K., 9, 36, 92
Pugh, A. G., 54
Reed, C., 397
Reid, W. F., 209
Rippon, C., 35
Roberts, N. F., 485, 531
Roberts, R. Lloyd, 12
Robertson, R., 171
Robinson, 396
Rosling, G. M., 12, 245, 351
Round, H. W., 114
Sharpe, T., 52, 100
Snawler, L. A., 243
Shea, R. T., 172
Short, J. E., 326
Sinnett, J., 337, 425
Sitwell, F., 226
Sladen, F. W. L., 281
Sleight, T., 517, 527
Smillie, J., 185
Springett, H. K., 462
Stanley, T., 43
Stich, H. M., 44, 123, 229, 327, 376, 386
Strong, G. R., 350, 351, 375, 522
Sturges, A. M., 42
Sturtevant, A. P., 352
Taylor, A. E., 78, 373
Thomas, G., 207, 399
Thompson, E. J., 62, 210
Tomlinson, S. A. W., 261
Tickell, J. L., 197
Tidbury, L., 364
Town, W. (Miss), 570
Tredcroft, C., 232, 268, 316, 338, 362, 436
Tremlett, E. G., 233
Trowse, A., 238, 556
Tudway (Brig.-Gen.), R. J., 436

Walker, E. F., 432
Wallace (Liut.-Col.), W. B., 291
Walton, L. W., 566
Warren, A. E., 446
Watson, W. S., 76
Webster, G. A., 221
White, W. H., 98
Wilby, N. M., 263
Williams, K. B., 209
Wilson, D., 382
Winterton, W., 483
Wood, G. M., 373
Woodhouse, Parkinson, T., 316
Young, H. P., 569

ILLUSTRATIONS.

Apiary, Mr. B. T. Abell's, 528
Apiary, St. Mary's Abbey, Buckfast, S. Devon, The, 313
Apiary, Mr. M. G. Lowe, 335
Birch, The late Mrs. E. A., 333
Brood-Hatching Chamber, The, 18
Brood in Aluminium Comb, 421
Homes of the Bee in India, 205
Hygienic Hive Stand, 39
Hygienic "Wall-Feeder," 82
Judging Honey Exhibits at Stafford, 509
No. 2 Apiary, Home Farm, Kilmarnock, 55
Part of the Staffs Bee Re-stocking Apiary, 431
Partial External View of Winter Apiary, 48
Partial Internal View of Winter Apiary, 49
Protective Hygienic Hive, 82
Rectum of Honey Bee suffering from "Isle of Wight" Disease, 121



Greetings.

With this number of the JOURNAL we enter on our forty-sixth year, and once again we wish our readers a happy and prosperous New Year. The outlook now is very different to what it was a year ago. Now that the fighting has ceased and the demobilisation of our large fighting forces has begun, many bee-keepers will, we hope, soon exchange the rifle and gas-mask for the smoker and bee-veil.

The future for bee-keeping never looked brighter. The war has altered many things, and has brought home to the people of these islands, as nothing else could have done, the necessity of relying more on our home-grown supplies of food, among which honey has proved to be of no little value. Not only has the work of the bee as a producer of honey and wax become more appreciated, but also its value in the production of fruit by the distribution of pollen. The Government is as last realising the importance of the industry, and we hope that ere long legislative steps may be taken to check and prevent the spread of disease, thus putting bee-keeping on a sound footing, enabling the cottager and working man, who have no spare cash to risk, to invest in a few hives of bees, with a good prospect of their stock remaining healthy. We hope all our readers will sign the petition now being promoted by the B.B.K.A.

The price of bees and honey will no doubt remain high for some time yet, as the supply will not equal the demand, not in this country only, but in others. The dreaded "Isle of Wight" disease, though apparently losing some of its virulence, is still taking a much too heavy toll of bee life.

We thank our readers for the generous support they have given us again during the past year, and also thank those who from time to time have sent us suggestions that may help to improve the JOURNAL. Though some disappointment may be felt when these suggestions are not adopted, our friends may rest assured they have been carefully considered, and there is good reason for not adopting them. It will be noticed that the headings to articles are being printed in slightly different type (the idea of a subscriber of long standing) and we trust the alteration will also be an improvement.

Obituary Notice.

MR. JOHN WILSON.

Mr. J. Wilson, a bee-keeper of many years standing, passed away at the village of Besthorpe, near Newark, on December 19, 1918, aged 78 years.

Mr. Wilson, who was a very capable gardener, was one of the old type of family servants, having been in the service of the same family for 61 years. He was one of our oldest bee-keeping friends, and was well-known as a most capable bee-keeper when we first commenced bee-keeping. His services were much in demand as a judge at local flower shows, especially those that had classes for honey, and we were indebted to him for several hints on showing honey and wax when we first ventured to try what we could do on the show bench. Always bright and cheerful and with an ever-smiling face, he was always—like all true bee lovers—ready to impart any information he was able to give.

In those days—over 30 years ago—the great dread of all bee-keepers was an attack of foul brood, and we well remember him telling us of his efforts to combat it, one plan that he tried being to go through the hives every few days, and put in each diseased cell a drop of carbolic acid, but this failed to eradicate the disease.

Mr. Wilson had also a gift for mechanics, and when over 60 years of age learnt to drive a motor car, acting as chauffeur until well over 70.

He was held in the highest respect and esteem in the village and neighbourhood. His death leaves another gap in the ever-narrowing circle of our old friends. May he rest in peace.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, December 19, 1918.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. J. N. Smallwood, G. Bryden, G. S. Faunch, T. Bevan, G. J. Flashman, W. H. Simms, G. R. Alder, J. Herrod-Hempsall, J. B. Lamb, F. W. Walls, Association representatives: E. Ff. Ball (Bucks), M. E. Hamblyn (Surrey), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Messrs. T. W. Cowan, C. L. M. Eales, G. Thomas, F. W. Frusher, and Rev. G. H. Hewison.

The minutes of the Council Meeting held on November 21 were read and confirmed.

The following new members were

elected :—Mrs. J. A. Harrison, Mrs. Stewart Harrison, Miss C. G. Wallace, General Sir John Nixon, Messrs. E. C. Fisher, A. Haigh, and J. Hardacre.

The Rev. D. R. Jones was nominated as the representative of the Cumberland Association and accepted.

The report of the Finance Committee was presented by Mr. J. Smallwood, who stated that payments with the bank for November amounted to £8 16s. 1d.; payments recommended, £101 12s. The balance at the bank on December 1 was £130 6s. 7d.

A letter was read from the Royal Agricultural Society of England *re* Royal Show at Cardiff, and it was resolved to undertake the management of the Hives and Honey Department. It was also resolved that a fund be opened to defray the expenses in connection therewith.

Next meeting of Council, January 16, 1919, at 23, Bedford Street, Strand, London, W.C.2.

Notice.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff in 1919, so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

RATIONING OF BEE FOOD.

Bee-keepers in England and Wales are reminded that unless they register *at once* with the Secretary of the Horticultural Sub-Committee in their county they will be unable to obtain candy or bee food for spring feeding.

A Dorset Yarn.

We find the bee-keepers of Dorset are being considered by the County Council. The Government are to send into each area stocks of candy, this makes another form to fill up (we growers get plenty of them, so one more won't matter if we can get the goods). I anticipate that our bees have been drawing on their stores a good deal, as they have been on the wing so much this mild time. Text-books tell us they draw on stores in mild weather. When active ourselves we need more food, it is reasonable that our bees want it in like manner, but "the best food for bees is honey"; if we take it from them we must give the next best value, and that is good sugar. I hope it is made up in a good form, as we must use that, or do without it, and in districts where there is no early food for bees, they are bound to be short of food in the early months of the year, when the winter is a warm one. This will be a census of bee-keepers and stocks for the whole country if all are registered.

We shall find many bee-keepers who will be also farmers and smallholders this next season, by the number who send letters and queries to the Violet Farm for information. It is quite a business to answer so many, and as it is largely to do with tilling the soil, I feel it would be too much to ask the B.B.J. to include it all in the "yarns." We do what we can, and as concise as possible. Many text-books on the soil teach trenching two spits deep. That amount of labour seems to spoil the pleasure of land work, one day of it makes many shy at ground work, but most crops give good returns with only ordinary one spit digging with spade or fork. Grassland turned in is the best, if dug, only take little spits each time; a navvy paid by piece work would turn in large pieces to earn as much as possible, that is not wise. If the land is worked by horses, and only ploughed once, small furrows and as deep as possible. Excellent results can be got from the soil, a good living for a bee man on a few acres, with extra food for his bees, and if he wants fruit trees as well, a deep forking along the lines where they are to be planted will be all that is wanted; use a *new* digging fork, not one that is half-worn out. For early returns plant gooseberries, we have acres of them, but we still buy new sorts that are free bearers, by the hundred, and plant, as they are the finest we have on the the farm for the bees, our older varieties we simply plant the cuttings in the long lines where they are to fruit, and thin the plants and sell them each year, leaving enough for a paying crop of fruit; we waste nothing, as the older bushes in winter have the branches thinned out, we plant line after line, knowing that bees will be able to get food from them, and the extra rows will give more returns when the summer harvest comes on. I have written this so much that older readers will be tired of the repetition, but there must be a considerable number of new bee-keepers just along now, and I hope others will not resent this part of the "yarns." If you plant apples and pears, buy those varieties that fruit early, when quite small trees, the extra pleasure of production will soon repay for the extra labour put into the soil.

A bee enthusiast came to see me to-day, the 28th. He, like myself, at one time was

a gardener on the estates of the wealthy, but now he is for land to work on his own, he tells me all his spare time he is making extra hives; I admire his optimism and enthusiasm. He came and took away some raspberry canes—food for his bees as well as fruit for himself. We have sent away this season over 4,000 canes to all parts of the United Kingdom. All who see it are eager to have it; bees will have a good time where these have gone. My friend to-day told me of parts of Cambridgeshire where there were many thousands of acres all planted in fruit. No wonder the bee-keepers of that area get good returns from their bees—shall have to make a tour of these fruit farms if we live to have another holiday.—J. J. KETTLE.

Questions, etc., for Bee-keepers for Self-Examination.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

193. Why is it important that frames in a hive should hang vertically?

194. How should empty combs be treated before renewed use?

195. What preparations should be made in winter for work in an apiary in summer?

196. How should a queen cell be cut out and be grafted into another comb?

197. Give particulars of the method recommended for cleaning hives and frames.

198. What ill effects are likely to follow from delay in autumn feeding? Explain why and how they arise.

199. When open-air feeding is resorted to, how and when is it done? And why must this method of feeding be employed only with much circumspection?

200. How is over-crowding in an observation hive prevented?

201. State what you would have to do, without keeping an inordinate number of hives, to secure a full share of the honey crop if everybody near you kept bees.

202. Describe minutely the antennæ of each kind of bee. Assist with sketches.

203. Give details of the Demaree plan for swarm prevention, and state its advantages and disadvantages.

204. Make notes for a 15-minute lecture on "How to Fail in Bee-keeping."

J. L. B.

Erratum.

In the article on "Isle of Wight" disease, by Mr. Watts, in B.B.J. of December 26, the 9th line on page 419 should read, "in the small doses of 2 drachms to the pint."

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Do Bees Build Comb in Winter?

[9826] With reference to the article in the BEE JOURNAL, dated December 12, 1918, "Do Bees Build Comb in the Winter" (9815).

Yes, bees do build comb in the winter, and the reason for them doing so is to fill up space over the brood nest, evidently it is a strong stock and there must have been a lot of unsealed honey in the skep. All straw skeps, or nearly all, have a large hole on the top through which the bees travel to the other parts, and by placing on the cake of candy it makes such a large space between the comb and the candy that in nearly all cases, weather and time permitting, the bees build in the space with comb from the interior of the hive, and as the space increases through the bees feeding from the candy, they keep on increasing the comb.

Re the "*Storing of Candy*": No matter what space there is in the hive, bees do not store candy unless it is made into liquid form.

Re the "*Building of Comb*": Bees very seldom start building from glass, unless starters of foundation are given, but in all cases where combs are as described by the writer, bees build upward.—BROTHER BEE-KEEPER.

Symptoms of "Isle of Wight" Disease.

[9827] I am greatly interested in bees, and the different correspondence which appears in the BRITISH BEE JOURNAL *re* "Isle of Wight" disease is most interesting, but at the same time extraordinary, because, from the different experiences recorded, very few appear to be the same as to symptoms.

I am only a bee-keeper of three years' standing, but during these three years I have "studied" bees and learnt a great

deal; and were it not for this so-called "Isle of Wight" disease I should by now be the proud possessor of at least a hundred stocks. What I do not understand about my bees is that they do remarkably well from early spring right up to the end of October. Then I begin to see some crawlers, and this is the beginning of the end, for nothing whatever seems to save those stocks which show the symptoms; they die, no matter what I do. Flavine and Bacterol I have used, and so far as my bees are concerned I might as well not have used it.

Take, for instance, this year. In October I had ten beautiful stocks—certainly some were on only eight combs when I began to pack them up for the winter—and now I have already lost three, absolutely cleaned out! The others, so far as I can see, are all right. From August onwards we had very bad weather, and the poor bees, at least in this locality, had to be fed. I used the ordinary medicated candy, and started to give them the syrup made from it as early as August, with the result that by the time I packed them there wasn't one single stock that hadn't all its combs full of sealed food for the winter. On seeing this I congratulated myself, because I thought, "Now the syrup I have given them will not get sour," and quite looked forward to escaping the loss of any of my stocks. I was, however, to be disappointed, because as sure as the end of October appeared so did the crawlers! I have been very careful not to use old frames of comb, or anything that has in any way come in contact with previously infected stocks, so I really do not know what to think of it all. Last year one of the very largest of my stocks got the disease about January, and as I could do nothing for it I left it alone. By March the colony had dwindled to a mere handful of bees, with the queen, but as I saw they had plenty of stores I still left them alone, only cleaning out the hive. These bees survived, and began to come on well about May, when the queen died. I then bought an imported Italian, a really beautiful bee, and this good lady as soon as she arrived started putting her house in order by laying for all she was worth, with the result that in a very short time I noticed the loveliest golden bees coming out of that hive. These, I am glad to say, did well, and I sincerely hope they will survive the present winter. I find that the very strongest colonies are nothing like so liable to get the disease as the weaker, although they do get it too, as in the above-mentioned case, and it is certainly my opinion that stocks which have gathered their own winter stores naturally, do not get it so readily, and in future I am not going to keep any but very strong stocks that have gathered their own stores. Feeding in the early spring, when necessary, is all right, but certainly autumn feeding has been a failure with me. A great friend of mine, who has kept bees for years, and has, I believe, over one hundred stocks, never feeds in the autumn. He takes great care to keep all his stocks as strong as possible, and so far he has hardly had any trouble with the "Isle of Wight" disease. I am of opinion also that bees get the disease from something they pick up outside, and that some neighbourhoods are more liable to it than others. Last year I started a friend of mine with a very strong colony, bought from the same man who sold me mine. These bees went to a heather district about four miles from here, and since then they have done remarkably well, never required feeding, produced abundance of honey and heavy swarms. The bees are half-bred Italian, just like mine, and, as I said before, come from the same place. It is extraordinary that, whilst my bees were nearly wiped out, these should have done well. Another thing I cannot understand is that one of my last year's stocks never showed any signs whatever of the disease, whilst the rest were dying by the thousand all round it, and this year gave me 98 lbs. of lovely honey. This stock at present is as strong as it can well be, and it never got any autumn feeding. How was it it escaped the disease? Another hive—a very strong late swarm—gathered its own winter food, and is at present doing well, whilst the one next door, a matter of about three yards, has been wiped out! The thing is a mystery to me. Another friend of mine lost all his bees, three stocks in all, from the disease two years ago, and in disgust he left the hives where they stood. The following summer a strong swarm walked in and settled in one of the infected hives; now he again has three strong lots, and these bees are actually on the same diseased frames of comb, etc.!! This evidently shows that the disease in his case is not infectious. Are there different bee diseases that are passed off for the "Isle of Wight"? With respect to keeping bees more free from the disease in skeps, I have had stocks in skeps wiped off just as readily as those in frame hives, so don't think there is much in it. In future I am going to see if I cannot work my bees in a more natural way, giving them plenty of room, which, I hope, will prevent swarming, and leaving them more to themselves. Then, if they do swarm, I will take care to either return them to the parent stock or else unite two or three swarms together, thus keeping the colonies as strong as possible, enabling them to gather their own winter provisions for themselves, which I think is best for them.

—W. A. R. Heaven.

A Correction.

In our issue for December 26 a slip of the pen occurred in a footnote to Mr. Edmund's "Notes from Bechuanaland," and owing to the pressure of work caused by having to get two numbers of the JOURNAL out in one week it escaped our notice. We said, "Disposition is inherited from the queen." The last word should, of course, have been "drone." This is the generally accepted theory, as several of our readers have pointed out. We do not, however, in any way qualify the advice given in the previous sentence to the effect that if docile bees are wanted queens should be bred from mothers whose worker progeny are gentle. Colonies of bees that are vicious should be requeened as soon as possible, with a queen reared from a colony that is known to be quiet, and not inclined to sting anyone approaching within a dozen yards of the hive. It is also advisable to trap any drones from such colonies, or prevent them flying, for, after all, the drone is the son of his mother, and will inherit more or less of his disposition from her.

Roll of Honour.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

This list will shortly be closed. We shall be pleased to receive any further names as soon as possible, also the names of any bee-keepers who have been killed or wounded since their names were previously printed in our list.

Driver T. Rowlands, Chester Road, Aldridge, Cheshire—2/8th Brigade, R.F.A.

Pte. H. Hogley, Station Road, Holmfirth—West Riding Regt. Wounded at Vimy Ridge and the Battle of the Somme. Killed in action in France, June 23, 1918.

Notice.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

Rationing of Bee Food.

Bee-keepers in England and Wales are reminded that unless they register *at once* with the Secretary of the Horticultural Sub-Committee in their county they will be unable to obtain candy or bee food for spring feeding.

A Dorset Yarn.

The first four days of 1919 have passed without seeing a bee on the wing; several days of cold winds and rain, with a fall of snow on Friday night, which mostly melted as it fell. Many tillers of the soil think that snow enriches it, as they say it produces more after hard winters. In my opinion it is the frosts that make the soil more friable. On our farm we are looking forward for a bumping harvest. All manure in the yard has been carted on the ground, and the yard filled with leaves, as we did last year, from the woods of Merley; we find in conjunction with the dung of animals this makes a valuable plant food. The more the soil is stimulated with fertilisers (which modern growers use largely) still more humus should be added to the soil, to keep it up to a high standard of production. An old Chinese proverb, "The man who makes two ears of corn grow where one did before, is a benefactor to his race." I suppose it still holds good, that he who can keep two stocks of bees where only one could find enough food before, would also be, if not a benefactor, a great help to stocks of food in the country. We have taken four derelict fields where gorse, briars, and willows have grown as they willed for many years, we have soldier labour getting out roots, and making it ready for summer crops of food; we want to make it like we have in the Old Book, "the land that was desolate is become like a Garden of Eden," that is how many of our fields look when our fruit trees are in blossom, even these same derelict fields in their season look gay with gorse, broom and willows, but there is nothing in the soil that produces food for man. No man

in creation loves the beautiful more than I; but that which is unproductive loses its beauty in my estimation.

I have before stated how people who come to this village admire the beauties of the woods and valleys, and tell us "No wonder you are cheerful and happy with such beautiful views, such beautiful sunsets." We have to tell them we cannot live on these beauties, much as we like to see them, and the sunsets this last week or two have been very beautiful. The tiller of the soil must see every acre producing the utmost possible crop that can be got out of it, or he will never live up to the old Chinese proverb. Old Tom Richardson wrote the same in one of his books, that was where I saw it first, but he must have taken it from the older writings of the Chinese; it has always been in my thoughts when we are reclaiming derelict land. We see in prospective what these will look like when productive crops are growing. We seem to need another Emerson or a Carlyle to fling out to the world this gospel of production. As the former puts it, "There is no such thing as standing still, so soon you cease progression, retrogression begins." With our bees it is the same, we must move on progressive lines, or we soon degenerate; no practical bee-keeper is content with a small surplus when he knows that a large one can be had by keeping the stocks strong, and adding the drawn-out combs for the thousands of willing workers to fill.

In a letter from a talented horticulturist near Shrewsbury, he writes of sections, his lady wants the best (ladies mostly do, and they mostly get it), do Carniolans or blacks make the best section honey, should he change his Italians for them? My advice was no, because of the great weight of honey they produce; take off the sections as soon as they are finished in summer, some of them are nearly as white as those made by blacks. I cannot think why Italians should cover their sections without the small amount of air beneath the cappings as the blacks, or if so many of them running over the cappings should cause the air to escape and the cappings to sink to the level of the honey. I took out some last August that were quite yellow, some a rich amber colour, such as we like to get on Muscat grapes when finished, others were badly coloured, that was the dark-coloured honey beneath. A rack of shallow bars put on after the second week in August had the whitest cappings I have ever seen from Italians, which makes me think it is age that makes the colouring mostly on the cappings. This horticulturist writes from some Castle gardens, where he must have plants from every clime that bees delight in. He should have the very best, and as he progresses with their management, he will be a great asset to the craft generally, as all gardeners (that I have met) are most painstaking in whatever they take in hand.—J. J. KETTLE.

Skeps and the "Isle of Wight" Disease.

It seems to me that a large number of people miss the main point in the above. I have had some years' experience with "Isle of Wight" disease. I have tried many so-called cures. I have tried bees supposed to be "immune." Much might be written about the disease and why some colonies go down at once and others close by live on without a sign of it, and then, possibly in a week or two, show foulness, and speedily die out. No doubt a colony that has given its one or two hundredweight, or more, of honey is weakened, and, though perfectly sound, might suddenly contract the disease and very quickly go under. The fact that tainted combs have been put into disease-free hives with no bad result, so far as can be seen, after a short interval of even twelve or more months, *only points to the healthy condition of the said hive.* Let it be weakened, and the tainted combs will quickly do their work.

I have tried feeding with most of the advertised cures, and, *if one relies on feeding*, it simply means losing the bees. Nothing on the market is any good, so far as my experience goes in a fairly large apiary, where I have refused to kill my bees because there were signs—and very much signs at times—of "Isle of Wight" disease.

To my mind—and I see some of those who advertise a remedy hold the same idea—it is more or less a matter of "sanitation," coupled with a regular renewal of the queens.

To come back to the skeps, which we seem to have forgotten, generally about two years was the life of the *small* colony. I say "small" in comparison with those in the bar-frame hive. Then it was smothered and the comb smashed up, the skep well scrubbed and put away for another year—which means rough sanitation, new combs, and a new stock.

A few soldiers may be kept in a camp without much harm for some time, but when numbers increased, the results of the Boer War, and more recently the Serbian and Armenian prison camps, and our own lads in Germany, make us realise that "sanitation" is a deadly foe if neglected. I have inspected apiaries wherever I have had the chance, for I am anxious to learn, and I regret to say

many who know better do not keep the hives, etc., in a proper sanitary condition. (I am not writing of those who keep bees and know nothing about them, and whose apiaries, if they were our houses, would be a disgrace to civilisation.) There is too much grasping with some of the fraternity. If they would shed some of their profits in a regular clean-up, *twice a year*, of all hives, and with a large colony giving them a new house—i.e., cleaned, *and painted if necessary inside and out*, at least three times in the year, with the precaution of spraying at suitable times, or at least a clean, fresh floor-board now and again, together with the scrapping of all two-year-old brood frames and combs (or, if necessary, one year), adopt the plan of clearing out *four* every year, we should soon see stronger and more vigorous bees. The dirt-soiled cells only allow small bees to grow, and the many-year-old combs, with stale and hard pollen and thickened honey, are not conducive to a healthy household.

Then change the queens—shall I say yearly? Anyway, do not keep them over two years, and, if necessary, when you have a stock that is not progressing, give it a new queen, even if the reigning one has only been regnant six months.

Ordinary common carbolic acid can be used for cleaning; for spraying I should use Izal or Flavine. And remember the old saying, "Prevention is better than cure": and I can say that prevention is less laborious than cure.

Much has been written—and what one has read has its value, though not always on the lines the writer intended. It may point the reader to other conclusions which may in the end help us all. It is therefore to be hoped that more bee-keepers will give us their experience.

One can hardly say that they have cured "Isle of Wight" disease when one has requeened, and given a new house and fresh combs, and soon get a new family; but in so doing one can say the apiary has been kept going. To do this one must keep everything clean. All metal ends should be boiled before using again.

I should like to know on what ground Mr. R. B. Manley states that the "extractor" is the chief source of infection! I should say there can be no infection from the extractor, except, possibly, in a small way, if the apiarist is not cleanly, by infected shallow frames of comb touching it; but I should be more inclined to say infection would come in other ways from the infected hives whose shallow combs he happens to be extracting. Here, again, keep the extractor, uncapping knives, ripeners, and all other etceteras *clean*: wash them after every extraction, but not with carbolic, unless you want your honey to be flavoured.—MERCIA.

Notes on "Isle of Wight" Disease.—I.

An observant apiarist was remarking to me the other day, in a constructive spirit, that it is not a good feature of the present BRITISH BEE JOURNAL to see most of its pages devoted to discussions on "Isle of Wight" disease. Considering that it is the oldest bee publication in this country, which still maintains a wide and a growing circulation amongst British bee-keepers, both professional and amateur, he believes that the JOURNAL is rendering a poor service to its readers of the amateur class by the little practical information which is given in it, and which is particularly intended for their help, such as the notes that occasionally appear under the title of "Seasonable Hints." He further observed that your editorial footnotes are frequently needed in connection with many articles which you publish from different writers, so as to maintain a liberal and healthy censorship, and so as to stimulate helpful discussions. With the latter remarks I agree; but it is difficult to agree with the first observations, inasmuch as the development of the various bee publications in this country, and not the development of the JOURNAL alone, is limited by the degree of support from its readers. Again, I do not know of any British bee periodical which is sold for more than twopence per copy—a sufficiently low price, which is more fitting for a newspaper, and which is far from being sufficient to encourage any development. In wishing a prosperous and a happy year to all your readers, I take the opportunity to express my hope that you will be able shortly (both through their support and through your initiative and enterprise) to create a larger and a more serviceable weekly, commanding a respectable price. By taking this progressive step you will give an encouraging stimulus to all sections of the bee-keeping industry in this country. Meanwhile, I fail to see, irrespective of the limits of your space, how you can possibly economise in the space devoted to discussions on our most urgent task. The future prosperity of apiculture in Great Britain is much dependent on solving the problem of bee diseases; therefore I consider your literary service in this direction as by no means small, and the continuation of which as quite necessary.

It has been the usual habit of your correspondents to dwell upon one or two points in connection with the prevention and treatment of "Isle of Wight" disease. On the other hand, it has interested me more to survey the *whole* aspect of the trouble from different angles, and I have already expressed several views bearing upon my study. It would be profitable to

summarise again these views, since I note that some of your correspondents imagine that they are not inter-dependent.

I consider that an effective *prevention* of the disease (and consequently—to a greater or less extent—an effective *treatment* also) is dependent on two main factors—(1) *Government supervision*; (2) *Research*. It is hopeless to talk about the former and neglect the latter, or to support the latter and ignore the necessity of official control. *Both* are vital for safety and progress. Let us bear these *two* factors in mind, and I shall endeavour to justify my assertion regarding their necessity in my succeeding brief notes on this subject. The trouble is not so simple as to be dismissed with the advice of "the spray and re-queening in spring and the brimstone pit in the autumn." Such an advice will not move us an inch forward. It is no doubt correct when the trouble is viewed from no more than one angle, but not otherwise.—A. Z. Abushady.

[While we much appreciate our correspondent's suggestions and criticisms, we cannot at present see our way to make the B.B.J. larger or more expensive. Beekeepers are of all classes and grades, from a king to a peasant, and though the former might be able to pay, say, sixpence per week for a paper on bees, it would be too high a price for the latter; and, as we have decidedly more peasant than kingly readers, we must keep the price as low as possible consistent with the paper paying its way, which, as we are not millionaires, it must do.

We make no apology for the prominence given to the "Isle of Wight" disease, and attempts to find its cause and a cure. It is, as Dr. Abushâdy says, the most "urgent task" of bee-keepers to overcome this pest, for until it is overcome no one can go in for bees with any certainty that their stock, or the greater part of it, will not be wiped out in a very short time.

So far as editorial footnotes are concerned, we possibly might make these oftener, but we do not feel that our readers want our own individual views thrust upon them too much; and, again, as very often our views do not agree with those of our correspondents, such footnotes would many times take the form of criticism, this might very easily involve us in a controversy, which we have not the time to carry on. Since our former Junior Editor was obliged to give up the work, we have had the whole editorial and managerial work to attend to, and we can assure our readers that we have had more than enough to do without engaging in any controversy, or even writing many footnotes. For the same reason "Seasonable Hints" have not appeared as often as we would have liked, even though our rule is "late to bed and early to rise."

As we remarked last week, we are always pleased to receive suggestions and criticism, even if the latter is adverse, so long as it is intended to be helpful, and is not simply for the sake of criticism. We are quite aware there are people who, in their own opinion, could run our papers much better than we do. There is also an old proverb which says, "Everyone can deal with the devil but those that have him." It is a very easy matter to sit at home and write, "If I were editor—or manager—I would do this, that, and the other"; but we are, if we may use a vulgarism, "on the job," and know about as much of the difficulties of it as anyone.—Junr. Ed.]

Questions, etc., for Bee-keepers for Self-Examination.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

181. What happens when there comes a second queen in a hive?

182. When may a swarm be hived directly into a frame hive, and how should it be done?

183. What is the degree of temperature of the air about bees below which they cluster for warmth?

184. What harm is done in an apiary by spiders?

185. Describe particularly how sections are folded.

186. What is done with unfinished sections?

187. If a large number of young bees are present in a hive in late autumn what effect might they be expected to have on the wintering of the colony, and why?

188. In what kinds of locality is it useless to commence keeping bees with the view of obtaining honey?

189. How may bees be induced to fill sections so completely that cells next to the wood shall not be left empty?

190. What danger lies in marketing honey extracted from combs taken from diseased bees?

191. Discuss the statement that granulation is a proof of purity in honey?

192. Explain fully the import of Oettl's Golden Rule, "Keep your colonies strong."

J. L. B.

[The above set of questions should have appeared last week, but owing to an oversight on the part of the printer the Nos. 193-204 were printed instead.—Eds.]

A Plea for Two-Years-Old Queens.

"*Ultra posse nemo obligatur*" applied to queen bees would read "*Ultra posse nulla regina obligatur*"—there is a limit to the ovipositing powers of the queen, and any attempt by man to go one better than Nature, and tax the prolificness of the queen to the utmost, in and out of season, cannot have but a detrimental effect upon the progeny.

To improve upon the laws of Nature is an impossibility, but by careful study of Nature's ways we can apply her teachings to our purpose. The queen's fecundity will last from four to five years. She is in "full profit" the second season, after which time, according to the orthodox method, the queen has to be killed and replaced by a young one. Now, I feel sure I am not the only one who has felt reluctant to do so in every instance, and for the following reasons:—

1. If a queen has proved a good breeder under normal conditions, and produced a strain of bees of good working and storing qualities, I want to see more of her the following season.

2. Either to raise queens or drones from her, or

3. To keep her in reserve in case of queenlessness in any stocks in the spring.

And, *last, but not least,* to turn her to good account the next season in the following way:—

When the stock with two-year-old queen is on nine frames of comb, say about middle May, make an artificial swarm, but *do not* leave the queen on the old stand, remove the stock to a new location, take out three or four combs of *sealed* brood and give same to the flying bees on the old stand, and insert in centre a comb of eggs from old stock, or any hive you are desirous to raise a queen from; cut this comb half-way down. Returning to the parent hive with queen, place frames of comb with eggs and larvæ against one side of brood chamber, and next to them put the frames of comb with sealed brood, close up by division board, keep warm, and put on a slow feeder for eight days. After that time, if your hive contains five brood combs, go to the other hives that can spare a comb and collect four of *sealed* brood, add these to the five, making nine in all, slow feed for another week, keep warm, and then insert a frame of foundation in the centre, raise brood chamber $\frac{5}{8}$ in. on laths, and put a super on, well wrapped up, and the energy which this colony will display will surprise you. Try it.

The principle underlying this method is the following:—The queen is kept laying, all old bees and drones returned to the old stand, and thus removed the impulse to swarming, the cells vacated by the fast-hatching bees from the sealed combs inserted provide ample breeding space for the queen, and as the hive contains nothing but young bees these will be ready for the field about mid-June, when the honey-flow from clover starts in our district.

The swarm by this time, unless divided up into nuclei, will have a young queen, and if assisted by brood from other hives will also give a good account of itself.

The whole operation is simplicity in itself. There is no reversing or pulling about of brood chambers, no imprisoned drones, no danger of losing the queen by swarming, which is rather important, if a valuable one of a special strain; the bees, being interfered with as little as possible, and then only when young, remain good-natured throughout. The old bees forming the swarm will raise the finest queens from the egg under the swarming impulse, and thus stamina and health will be maintained under natural conditions.

Apropos immune queens—of course, every breeder of queens can control the breeding from selected queens, and is most anxious to get his young queens mated by drones reared from selected stock; but—and it is this "but"—he cannot control the drones—or, rather, the choice of partner a virgin queen may elect.—O. Puck, Chingford.

Combs from Other Hives.

Queen Efficiency.

By P. C. Chadwick.

For some time I have given the thought of queen efficiency more than the usual amount of study. The fact that in some parts of California, as well as some of the Southern States, winter breeding is not only frequent, but excessive, gave rise to the thought, Is excessive winter breeding desirable? From the standpoint of consumption of stores it is reasonable to believe that where winter breeding is in progress to any extent there is also a flow of nectar that is causing the breeding, which we will assume is sufficient to meet the needs of the colony for that purpose. But the effect on the life and energy of the queen seems of more importance than the mere fact that the colony is breeding during the winter months. There is a period in the life of the queen when she

may be said to have reached the "peak" of her energy. The question then arises, How can we secure the best results from her, or can we so arrange her career as to secure her services in honey production when she is at the "peak" of her career? In some locations it is doubtful if this can be accomplished, yet it might be.

My observation on the life and energy of queens is that the first season after their mating is the best of their life, or, in other words, they pass the "peak" of their energy at that time, in California. In the East, where the winters cause a long period of rest, as well as being more or less inactive during the autumn, the situation is somewhat different. But even there I have observed that where a long breeding season—say, from apple bloom to the close of a long white clover flow—comes, the energy of the queen by the next season is waning. In California the breeding under normal conditions in all parts of the State should begin in earnest by mid-February, and if the season is a good one we may expect the breeding to continue almost unabated until well through July, thus giving five months of continual and excessive activity. A queen mated the July previous will have passed her "peak" of usefulness, during the twelve months, under these conditions.

The amount of breeding space given a colony is a factor, for if the queen is confined to an eight-frame hive in the brood-chamber proper, or other small breeding space, she will be efficient much longer than the queen that is given a ten-frame brood-chamber and allowed to lay freely in the extracting-super also, for in the ten-frame hive, with the extracting-super, she will have eighteen frames available for brood, while in the eight her limit would be the eight frames.

If a queen mated in July is placed under conditions that cause her to lay continually through the summer, autumn and winter, it is possible for her to have passed her best before the close of the season the spring following. Hence, it would seem that if breeding could be kept to a minimum during the winter months, the response in the spring would be more rapid, and a greater force of young bees could be secured of the proper age to gather in the nectar when the season had also reached its "peak" for nectar.

In 1916 every queen in my yard was replaced with a virgin that mated from the full colony. This I consider the most desirable way to requeen. By August of 1917 I had lost more than a dozen colonies from queenlessness, while doubtless many of my 1917 queens had been replaced by supersedure unknown to me. I mention this for the reason that, having requeened under what I consider ideal conditions, I found many of my queens gone by the end of the following season. The ideal time for requeening, in my opinion, would be in September or October, for then, even with much winter laying, the greatest energy of the queen would not have been passed. But there are so many years when conditions are such that requeening at that time is almost impossible, owing to a dearth of honey, it is found necessary to requeen when opportunity offers, and not wait for conditions that may not come. Immediately following the main honey flow is preferable, when a dearth of nectar may be expected later.

—From the *American Bee Journal.*

The Bee.

We generally put down to instinct all the works carried out by the bee. Yet when we consider a little, some at least amongst us wondered if the bee is not a reasoning creature. Instinct, I take it, is the performance of an act which has required no learning or thought, but comes naturally to the performer. It follows that all such acts must be performed in the same manner with no deviation from the rule. But the worker bee does nothing invariably, that is to say, although the natural habit causes her to suspend her combs from the top of her dwelling, yet if prevented from doing so she will build from the floor upwards. This is only one of many similar instances, and seems to point to reason. Another thing that points to at least some reasoning power, appears in the issue of a swarm. It can hardly be a haphazard affair. Some must stay to look after the brood. How is this point settled? That a definite plan is made, becomes apparent, if we watch the issue of a swarm, for amid all the excitement and turmoil it will be found some bees go steadily on with the business of the hive. This gives rise to another thought. How do bees communicate with each other? They must do so, but how? We pride ourselves on the rapidity with which we can spread news, but take a hive of 50,000 bees, remove the queen, and I have known cases where in an hour every bee knew the mother was lost. It will be seen that there are many things that require investigation.

There has been a great deal written on this subject, and many theories have been advanced as to the way these things are managed, but nearly every writer has merely come back to the point of instinct. In fact one of our great scientists, Sir J. Lubbock, places the bee very low in the scale, and hardly gives her credit for being able to instinctively do things well. But I believe he was a skeppist. APIS.

—From the *Barnet Press.*

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Dutch Bees.

[9828] When "An Oxfordshire Parson" (9825) has kept bees a little longer he may change his mind. I agree that Dutch are excellent for increase, and he certainly has a wonderful strain of them—if, indeed, they are pure Dutch. What colour are they, I wonder?

With regard to legislation. I have tried to get a few signatures to the forms you sent me, but though the more advanced bee men will sign many people seem to have had enough of Government officials these last years.—R. B. MANLEY.

A Letter from a Soldier in France.

[9829] You will be interested to learn that I am kept pretty well booked up with lectures at various huts, and I think that next year will see a boom in the craft—that is, if the questions I get asked count for anything. I had a unique experience on Thursday night, being asked to lecture at the Y.M.C.A. Hut in the Chinese labour camp, through an interpreter. Of course I went, and chose for my subject "How We Keep Bees in England." Using slides from your set and some from a set the Y.M.C.A. have got hold of, I left out all the anatomical slides, and I must say I have never had a more keenly interested audience than the "Chinks" were that night. The hut was packed with three or four hundred of them, and we had to take extraordinary precautions to keep them from crowding. The sheet we hung in front of the stage, wet, with the lantern behind, and a barrier in front of the sheet, as they are like children for wanting to see where the pictures come from; hence the necessity of showing through the sheet. They seem to have a great respect for the sting of the bee, as one fellow asked—through Mr. Robertson, the interpreter—if the picture of Mr. W. Herrod-Hempsall with the swarm on his hand was real, and when assured that it was they asked if the lady was a bee-tamer also. I guess the interest was genuine, as they want me to go again in the near future. After the lecture one of their officers, who speaks almost as good English as I do myself, told me that he kept bees in China, in clay hives, which he breaks to get the honey. I had a long talk with him, and learned that he had kept bees for twelve years, and had never seen a queen bee. He also told me about a worm that is a pest in China, eating and spoiling combs and honey. I reckon it must be moth, as owing to bits of broken comb about every opportunity is given the moth for egg-laying. I expect you will hear from this gentleman, as I gave him the address of the JOURNAL office for bee books. He is going to study modern methods and get appliances sent out to China. I have also given him my private address, and shall keep in touch with him and try to learn how he gets on. I have to thank you very much on behalf of the boys for the use of slides.—W. METSON.

Get a Move On.

[9830] Mr. F. M. Claridge, in the JOURNAL of December 12, touches the spot. He asks what our Associations are doing as regards "unity, or co-operation," in the matters appertaining to the development of bee-keeping. Well, to give you my experience. I became a bee-keeper six years ago. I took in the B.B.J.. I tried to find out the name of the Secretary of the County Association. It took me two years to gain this information. Then I thought—"Well, I shall be able to keep up with the times now," but no, I was doomed to disappointment. I paid my annual subscription, and heard no more. This has been going on, in my case, for the past three years—goodness knows how long before. In view of the expected expansion of bee-keeping when peace conditions once more obtain, this is an appalling state of affairs. And I am afraid there are other Associations in the country run on similar lines.

I have reason to believe that I must register for candy before December 31. Where am I to apply for forms? With whom am I to register? I don't know. Surely it is the duty of my Association to enlighten me. But no, I get no communication from them whatever.

What we want is the Associations to "get a move on." Mr. "Busy" Bee-keeper—if he be a bee-keeper—will come up to the scratch all right.

What I should like to see is some sort

of control exercised by the B.B.K.A. over the County Associations.

Annual general meetings are now coming along, and these apathetic gentlemen who constitute a committee should be done away with "root and branch."

You will think me rather long-winded on this subject, but I know what *can* be done by an Association.

For the past two years I have been a member of an adjacent County Association, and have considerably increased my knowledge of bee-keeping by attending the many meetings and lectures which have been organised by that Association.

It is up to the Associations to "get a move on."—J. P. CHEYNE, Ilford.

[There are always two sides to every question, and we thought it only fair to give the secretary of the Essex B.K.A. the opportunity to reply to the charges made in the foregoing letter. It is as follows:—

The *facts* speak for themselves:

(1) He says it took him two years to find my name and address, when a post-card to you would have given him it in a day! Was he asleep?

(2) He says he paid his subscription and heard no more—yet our expert called on him, I see, on May 27, 1916, examined his bees, and left a report. Since then, as he had removed and *did not notify his new address*, no communication could be sent him. *Every* member of the Association was notified by me *directly* the registration forms were out, so, again, it is his own fault. He seems to be one of those people who, when all goes to their liking say nothing, but directly they want to grumble let fly at the "Government."

Our annual report supplied him with the name of his local secretary (one of the best we have), who is always ready and anxious to assist bee-keepers, often at much inconvenience to himself, and yet apparently he never called to get advice or assistance. The County Authorities are anxious to send me to lecture whenever there is a demand for instruction. Never yet has a request come from Ilford. Why does *he* not "get a move on?"]

Do Bees Build Comb in Winter?

[9831] I was interested in Mr. Preston's letter on this subject (9815). I had a similar experience last winter. I had placed a cake of Bacterol candy over a strong, and comparatively well-stored stock about the end of January last, and promptly forgot all about it.

Towards the end of February, or possibly later, I took a peep at that particular lot, and found that the candy had all been consumed. I took the paper covering of the cake away in order to renew the dose, and, to my surprise found that the original hole had been enlarged by the bees and a cone-shaped piece of wax about 2 ins. long, 3 ins. in diameter suspended from the inside upper surface of the paper!

Truly a remarkable, to me, unaccountable performance.

I believe Mr. Preston will find that bees are unable to build comb suspended from the smooth surface of glass.

I heartily second Mr. Claridge's suggestion of a plebiscite of users of W.B.C. hives on the question of standardisation. Surely the matter was well thrashed out in your columns last winter, and we don't want to start talking about it all over again.

Our craft is getting antiquated, and badly needs a "gingering up."—R. LLOYD ROBERTS.

A Curious Fact.

[9832] I have noticed during the past five weeks that bees from two hives in which stores are pure honey fly *far more frequently* than the bees from three hives fed with "Bacterol" syrup. To-day, for example, the bees were flying in numbers from the two hives, and not till after 12 o'clock did a few come out of each of the other three, and more often they do not fly at all. Hives are close together, and in all bees are on 20 combs. Two of the "Bacterol" syrup hives have far more sun than the other three. All bees are Italians, and all queens are the same age. —G. M. ROSLING.

Weather Report for December.

WESTBOURNE, December, 1918.

Rainfall, 2·76 in.
Heaviest fall, ·49 in. on 9th.
Rain fell on 28 days.
Below average, ·73in.
Sunshine, 21·3 hours.
Brightest day, 16th, 2·9 hours.
Sunless days, 17.
Below average, 29·3 hours.
Maximum temperature, 55 on 3rd and 13th.
Minimum temperature, 26 on 25th and 26th.
Minimum on grass, 22 on 26th.
Frosty nights, 6.
Mean maximum, 50·5.
Mean minimum, 40·3.
Mean temperature, 45·4
Above average, 6·0.
Maximum barometer, 30·261 on 14th.
Minimum barometer, 29·230 on 23rd.

L. B. BIRKETT.

Seasonable Hints.

With the weather so variable, it is somewhat difficult to give hints that are really "seasonable" in all parts of the country. Here in the south, the weather is mild for the time of year, and we have been able to pick wallflowers and a spray or two of white arabis in our own garden, while a Lyons rose in a pot that has been outdoors since August is bursting into leaf. Further north the ground has been covered with snow. A covering of snow on the hive roofs, *when dry*, will tend to keep out the cold, but when a thaw sets in it is better to clear it off both roofs and alighting boards. There is nothing that will find any defect in a roof—or anything else—through which wet may gain an entrance like half-melted snow.

We would again urge the importance of the bees' food supply from now onwards. For the present the pink candy must be relied upon, and those who have not registered for bee food should do so at once, so that they may obtain a supply later on. It must not be expected that candy or sugar will be available in a few days after sending up the application form. Until these are all in, the Sugar Commission will not know how much sugar will be required, and it will then take time to allocate supplies. Those who have not applied for a form should do so at once, *to the secretary of the Horticultural Sub-Committee of their county or district*.

In our issue for August 15, 1918, we published a notice from the Board of Agriculture and Fisheries to the effect that a committee had been appointed to, among other things, investigate the epidemic diseases of bees. The concluding paragraph stated: "The Committee would be glad to receive specimens of bees suspected of suffering from 'Isle of Wight' disease for examination and experiment. Communications on this subject should be addressed to Mr. Rogers, at 4, Whitehall Place, London, S.W.1."

We suggest to our readers that they send specimens of diseased bees for diagnosis to the Board of Agriculture instead of to us, as we cannot afford the time to make a thorough examination of samples of bees, nor have we the skill of the trained bacteriologists who are on the Committee. We have had up to forty samples to deal with at once—a task of several hours to make any kind of examination at all. May we also suggest that at least a dozen bees, as fresh as possible, be sent, with *a full description of any symptoms*, though not necessarily the life history of the colony for the past few years? We have often had from one to three bees sent with only the request: "Can you please tell me what caused the death of these bees?" which, in most cases, it is impossible to do without knowing something of the symptoms and conditions under which the bees have died. Another point that must not be lost sight of is that the mention of some symptom, perhaps not hitherto noticed, may give a clue for investigation as to the cause of the disease and increased knowledge of it. We will, of course, still give our opinion on samples of bees for what it is worth, but we think the interests of both senders and of bee-keepers generally will be better served by sending to the Board of Agriculture.

When sending bees do not put any food in the box with them, especially honey or syrup.

Donations for Royal Show.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

The following amounts have been received:—

	£	s.	d.
Miss Wallace	1	1	0
Dr. Abushâdy	0	10	6
Mr. W. Goldsmith ...	0	10	0
Miss Sillar	0	5	0
Miss A. D. Betts ...	0	2	6
	2	9	0

A Dorset Yarn.

A bee-keeper of Co. Durham writes of "Isle of Wight" disease among the bees in that area, and he adds at the close: "We are combating it steadily." That seems to be the essence of living, trying to overcome the evils that are in our midst. Nothing rejuvenates man more than to be up against something big. I think it is W. L. George who writes: "Life is only in us when we fight: fighting makes life splendid, and if we cease to fight we begin to die."

The British Bee Journal each week

shows that bee-keepers are up against something big, and are determined to combat it. As W. L. George further puts it: "Life has no virtue save in its battles, all the colour, all the dignity, comes out of contest: dignity comes with victory." It is the same with growing fruit. Writers send to the Violet Farm as to why certain varieties do not fruit, and why some do not grow well. How can one answer them when we do not know the soil—if it is deep or shallow, gravel or clay subsoil. The growers must fight the difficulties that come. Many plant an orchard of trees and place their hives among them and let the grass grow up close to the young trees. Of course, the trees cannot get a good start. No grass should be allowed near the trees for several years, as the roots of grasses rob the soil of nourishment. If soil is strong, it must be deeply worked, and if wet must be drained. Basic slag is a good fertiliser for stiff soils; there is not so much benefit from it on light land. The grower must overcome the difficulties. Whether it is the soil or the bees, "dignity comes out of contest." We who have had years of labour with the soil know something of what it will do if the essentials of plant life are added to it, if they are not already there.

A bee-keeper from the county of Buckingham writes that he has increased his stocks up to twenty, and last season they were very much in evidence in the pleasure grounds of the estate where he worked as head gardener. They fairly frightened the lady. He had to buy a bit of land and move them all off to it. Each year he has increased his stocks; each year he has had good returns. Emerson's dictum over again: "No such thing as standing still: so soon as you cease progression, retrogression begins." Rather than be without his bees, he would lose his high position. He bids fair to make a mark in the bee-world. It is like a page out of a good book to read such a letter; it would have been fine for the JOURNAL. The number of bee-men who are also horticulturists is very considerable. Their letters are very pleasant reading, so descriptive of bees and flowers; the revelling of bees on the Christmas rose, in the borders by the garden walls (they generally do well in those positions); but why send them to me and not to the JOURNAL is more than I can understand, unless it is their extreme modesty and we gassy Socialists, who do not know nearly so much, seem to be always in the limelight. If they all sent to the JOURNAL as they do to the Violet Farm, it would be three times its size, and its circulation would be soon doubled. The JOURNAL is standing still too long, when men like the "Oxfordshire Person" and the writer of "That Skep" could extend their writings, all full of interest to members of the craft. Just now the BRITISH BEE JOURNAL is crammed full of interest: the series of queries by Mr. Bishop makes one think, and to look up the different answers by the varied writers, in my opinion, is extremely educative. Those of us who had but little learning know the value of education. Each teacher has a different style of imparting it, even though the teaching is the same: each writer on manipulation of hives, on surplus, on winter care of hives, all teach the same; style is different. Adjectives by some are freely used, by others sparingly; but to him who has the welfare of his bees at heart, they are not wearisome: all are read with that kindly interest (not with carping criticisms). Everything that gives more interest to the JOURNAL is giving out more pleasure and instruction to bee-keepers generally, and is of great advantage when one takes stock at the end of the year as to what has given the maximum of profit with the minimum expenditure. On our farm the bees take the highest place, flowers next, fruit third, and vegetables fourth. Hay, corn, and straw we consume on the farm, so I have not that in the slips of payments to the bank. With bees the best, it is to my interest to learn all I can about them: that is why these "yarns" are written, because I want to learn more. If I give some pleasure, I want to gain some knowledge as well. I believe not half has ever yet been told about bees, with all the books that are published on the subject. It is knowledge we want, because we know that "knowledge is power," and by that we live, and have the pleasures of living with the rich dainties the bees gather for us.—J. J. KETTLE.

Notes on "Isle of Wight" Disease.—II.

STATE SUPERVISION.

In relation to infectious diseases, preventive medicine, in all its forms, calls for attacking the original sources of infections as soon as they declare themselves. Without the exercise of such an offensive policy, the "nests" of infectious diseases are bound to multiply, and in the cases of those possessing an epidemic character they soon become a great menace, when lack of control, and carelessness, rule. In the past history of both human and veterinary medicine in this country, striking examples of the results of both the indifference and the anxious supervision by the State in relation to epidemic diseases cannot be missed. The same lesson may be learnt from the history of

some plant diseases, especially in agricultural countries, and lastly from the history of bee diseases in Great Britain. The virulence of malignant dysentery in this country is believed to be somewhat diminished, though no hopeful assurance for the future could possibly be given. This small diminution in virulence is likely to have been due to the greater cleanliness exercised by bee-keepers in their methods of management, including the use of disinfectants, as well as to the greater attention paid to the breeding of healthy and comparatively immune strains of bees. But I fail to see that this partial abatement of the disease is due to the benefit of any medicament, as some writers would make us believe, since we still lack the possession of a *specific* drug (in the truest sense of the word) for the treatment of malignant dysentery. We must, then, attribute our little good fortune to what we might term *private supervision* as distinct from *State supervision*. I attach no little importance to this private supervision, (whether of an individual or a co-operative character), for unless the mass of the bee-keepers are sufficiently enlightened regarding the seriousness of the situation in relation to the successful development of British bee-keeping, and unless the goodwill, the watchfulness, and the conscientious attitude of their rank and file are enlisted, legislative measures will not be wholly fruitful. If these observations are acceptable, we should be encouraged by the results of the past private supervision, limited as it is, in trying to improve our methods of management and in seeking the greater support of State supervision.

I do not believe that there is any progressive apiarist who cannot appreciate the national importance of legislation in connection with epidemic bee diseases. If there is any opposition from such a direction, it is obviously due to some misconception, and not to a disapproval of principles. Such a misunderstanding should be immediately removed. As the British Bee-keepers' Association has taken the welcome initiative of petitioning the Government on this subject, it is justifiable to request the Association to hold a conference of representatives of *all* bee-keepers, irrespective of party or school, in order to thoroughly investigate all proposals and to arrive at a full understanding. But it might be argued that it is more fitting for the Food Production Department of the Government to perform this task. Whatever the means for convening such a conference may be, it is high time to create it, in order to realise the much-needed unity and co-operation amongst British apiarists, which is a necessary pillar for progressive development. Unity is strength, and it is highly undesirable to have a Bee Diseases Bill before Parliament partially backed by a disunited fraternity.

The necessity for helpful legislation could not be put in words better than those of Mr. Leslie Burr, who writes in Root's Cyclopædia as follows, in discussing laws relating to foul brood :—"In controlling bee diseases in a community, past experience has shown that it is necessary that every bee-keeper do his part: otherwise, the work done by individuals is largely nullified by the carelessness or neglect of a few. Where all the bee-keepers are progressive, a simple plan of co-operation would be enough; but, unfortunately, there are in almost all communities some bee-keepers who are either ignorant, careless, or wilfully negligent. If any of these will not voluntarily care for their bees, there must be some legal means of compelling them to abate a public nuisance when disease appears among their colonies. Laws providing for inspection of apiaries with the object of controlling diseases are, therefore, drafted primarily for the bee-keeper who does not voluntarily treat diseased colonies. The progressive bee-keeper needs no such laws to compel him to do his duty. The inspector of apiaries, however, in actual practice, is much more than a police officer: in fact, his police duties are but a small part of his work. However the law may be worded, the good which an inspector does is due in the greater part to his work as an educator. It is the duty of the inspector, specified in the law in most cases, to instruct the bee-keepers how to know disease and how and when to treat. The great good which has been done by the various inspectors in the past has been due almost entirely to this part of their work."

To such a sympathetic and guiding control, no fair-minded and impartial observer could possibly object. In a democratic country the fear of an oppressive Government control, that would make State supervision a curse instead of a boon, should not be entertained for a moment. Hardships resulting from partiality are not likely to occur if bee-keepers present a united front, and it is up to them to create this unity.

I am not in favour of a destructive supervision that will not entertain risking as many sick colonies as possible from disease, by whatever modern methods of treatment that seem promising, or that will not look upon bee-keeping as a national pursuit that needs moral and financial encouragement from the State, for the sake of the greater development of the food of the people. What is needed is a zealous, constructive, and impartial

supervision that will bring with it justice, without hardships to the innocent and the unfortunate, and which will be a stimulus and not a discouragement to bee-keeping.

Once it is possible to isolate most of the sources of infection, the incidence of disease is bound to decline, and with the development of scientific research, aiming at the continuous study of still better methods of protection and treatment, *we should not then be* far off from a much brighter future.*.—A. Z. Abushady.

* The first article on this subject appeared in the B.B.J. for January 9.

After Two Years.

On my return from the war I have been revelling in two years of B.B.J. I cannot well remember all I have read, but I rejoice in the advent of Mr. Puck, who seldom writes without being very interesting. Especially useful are his communications on swarm control of July and September, 1917. I expect that there is no more certain automatic method of heading off the swarming impulse than that of nadiring in advance of the queen's requirements. I think I would winter the stock on shallow frames in a deep brood box, transfer in spring to a shallow box, and keep on nadiring with shallows, removing from the top for extracting as the harvest flowed in.

Mr. Kettle's letters are always inspiring, and one of the treats I should like to promise myself is a visit to Violet Farm. I am sorry he has not more time to trim his letters up (and down). For example, he has quoted at least twice the lines "Ill fares the land," and each time with two mistakes. It should be "hastening ills" and "bold peasantry."

I find myself quite unable nowadays to read anything about "Isle of Wight" disease. All the drug stories seem to work out the same way, and the bees to do about as well as mine have done during the war without any treatment at all. I find there are five lots alive, two of them in the same hives as two years ago. One of these is slightly yellow, the other a pure black small east, picked up by the roadside in 1916. It showed signs of the disease that year, but has since become quite well, swarming vigorously, but not gathering much. I think I will make it rear queens next year. The other lot has always been a good gatherer, and also seems well. A third lot keeps very quiet on its candy, a fourth is lively on half-warm days, but not so lively as the blacks, and the fifth is a bad "crawler." I think I shall have some bees all right next spring.

It is nice to hear from A. H. Bowen (Lieut.) again. I hope I shall have him as a bee-keeping neighbour once more before long.—G. G. Desmond.

[We are very pleased indeed to welcome Mr. Desmond back to our columns after a two years' enforced "holiday" (?) in Germany. Some of our readers may remember we published the news that he had been taken prisoner.—Eds.]

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

205. Describe the make and use of a division-board feeder.

206. What precautions are necessary when a swarm is hived in very warm weather?

207. What reason is given for the addition of salt to drinking water supplied to bees?

208. What circumstances might necessitate the opening of a hive in January for examination?

209. Give full particulars of a method of making vinegar expeditiously from honey.

210. Of what use is the honey-sac to the bee other than that of carrying nectar and converting it into honey?

211. How may a bee-keeper rear and keep for contingencies a small supply of queens?

212. What kinds of excluders are in use in this country and in America? Give a complete description of one.

213. What is the proof that bees place formic acid in each cell of honey?

214. State what is known of nectar secretion.

215. Describe in full detail the thorax of a bee.

216. Assume an abnormal demand for beeswax, and state what alterations you would make in your methods of working an apiary so as to help to meet the demand.

J. L. B.

Food Production Bee Schemes.

The following is from the weekly circular issued by the Food Production Department:—

It is understood that the schemes of the Food Production Department formulated during the past year, for the purpose of maintaining our stocks of English bees and re-stocking with imported Italian and Dutch bees the apiaries devastated by "Isle of Wight" disease, are

developing most satisfactorily. Bee Committees have been formed in 23 counties, and, acting in co-operation with the local Bee-keepers' Associations, they are pushing ahead briskly with the registration of bee-keepers and preparations for re-stocking in the spring. Apart from the importance of bees to the cottager as a cheap source of supply for an invaluable sugar substitute, the re-stocking of our apiaries is most desirable in the interest of the home-grown fruit supply. This fact seems to have been brought home forcibly to fruit growers generally, and they are giving the Department's schemes most cordial support.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Wanted, a Meeting of Bee-keepers.

[9833] With reference to the remarks contained in the second paragraph of Dr. Abushâdy's letter (9822) stating that "collective and united action" is necessary regarding some form of legislation for bee diseases, I should like to call a meeting of those interested, to enable us to get started in this direction, and, therefore, ask those who are willing to co-operate with me to let me know whether they are prepared to meet me in London on Thursday, February 20, to open the matter. When I have received replies, I will arrange for a meeting-place. I purposely have put the date fairly far ahead to enable me to make the necessary preparations.

At this same meeting I should also like to open the question of standardisation brought up in my letter 9809, and since referred to by Mr. Claridge in his "Notes and Comments," and Mr. Lloyd Roberts, in 9831. Unfortunately I did not see the correspondence on this subject referred to in this latter letter. Will someone kindly lend me their copies for perusal before the meeting?—H. B. PEIRCE, Rosemount, Tudor Hill, Sutton Coldfield.

Among the Bees in France.

[9834] Am sending you this letter about one or two adventures I have had amongst the bees while on service in France. I have sent you a few lines sometimes, before the war, from my home at Hassocks, in Sussex. We have a bit of spare time for writing now, so thought I would send you this.

The first swarm of bees I saw out here was in July, 1916, at Harfleur Camp, one Sunday morning during Church service in one of the huts there. After the service I found the bees had settled in the roadway, and some of the chaps were throwing stones, etc., at them, saying they were wasps. This was only the beginning of their troubles. However, I got a box from the canteen, hived them in it, and placed them on another box under the hedge bordering camp, a little out of the way, and left them all right. Another chap was giving me, or trying to give me, some useful (as he thought) hints about them. I found they were still getting thrown at, and would have a rough time in camp, so I asked an English lady who had a house a short distance away if she would have them put in her garden, as I did not expect to be in the camp many days. I did not get leave to move them that day, but went in the evening to look at them, and found the chap who wanted to give me advice interfering with them. He had some funny notions about bees, as he said they were all in a lump inside, and would never make honey like that. The fool had shaken them down several times, as he said he wanted them to spread about over the box and make honey. He had also cut a hole about 6 in. square in the front of box, as he said they wanted to be able to fly straight into the hive, instead of alighting and crawling in. Where he got his information from I don't know. The biggest fools have the most luck, or he would have been badly stung. I fixed them up again, and next day had permission from the lady to move them to her garden, so arranged to do it that evening. However, when I went for them, bees, boxes and all had disappeared, and I never saw them again, and never found out where they went. I hope some Frenchman took them, but I heard a rumour that the sanitary man had dumped them into the incinerator! Poor long-suffering bees.

I have seen very few modern bar-framed hives about this part of France. The few I have seen had much deeper frames than our standard frame. Some of the straw skeps look very ancient, and even these are worked on very old-fashioned lines in many places. I heard of some of our soldiers who tried to get some honey from a straw skep in a deserted area. They

tried all sorts of ways, with gas-masks on, etc., but the bees won every time.

At another place where I was for a time last spring, when air raids were not uncommon, our men had been making some dug-outs in a bank. There was a piece of garden over the top of this bank with several hives of bees in it, and one morning, after some very heavy rains, we noticed one hive was missing, and found the ground had caved in on an unfinished dug-out, and the hive had fallen into the hole thus made. Fortunately it happened to be an empty hive, and the only damage to it was a broken leg, which I repaired, and also took steps to prevent any of the other hives (which were full of bees) from danger of falling in. Some of the hives were big double bar-framed ones with hinged-on roofs. The bees here used to swarm round our jam-pots at tea-time, and were called wasps by some of the chaps, and treated as such by some of them.

I saw the remains of straw skeps among some ruins on the Somme battlefield last month; but no sign of any bees. No doubt it had once been a happy French bee-keepers' home; but what a wreck now, and all around for miles and miles, as far as the eye could see, not a decent house to be seen anywhere, and scarcely a tree without an ugly mark of war. It will be a long time before these districts get back to their normal state again. Am sorry to see the "Isle of Wight" disease is still active in "Blighty," but am looking forward to a good season next summer at home, after three summers out here. With best wishes for the New Year.—From WILR. P. GRINSTED, 123492, R.F.A., January 2, 1919.

That Skep.

[9835] As you will know from my enclosed card, the writer is a beginner. Taking the excellent advice given in your notes to bee-keepers, I have utilised winter evenings preparing for next season. One item was, I came across some very old brood combs, bought with my very first stock, very black and tired looking; these were condemned and broken up for melting, my first operation in this line.

Imagine my surprise at the large residue of old skins cast by the young brood, after I had *boiled* out all the wax; I was also impressed by the foulness and stink of the mass.

This is the point I want to make:—In movable comb hives the tendency, I think, of bee-keepers is to go on using these drawn out combs from year to year, especially if they (the bee-keepers) happen to be easy-going by disposition, also the temptation of accelerating the building up of stocks and nuclei by their use. The result is that in a brood box it is possible to get slab after slab of this foul matter, forming the habitation of the bees; also an excellent incubator for any disease that comes along.

I have never owned a skep, but I understand, that the methods of the skeppists, *i.e.*, the sulphur pit and their way of taking the honey harvest, will militate against any combs in skeps getting to be such a great age as movable combs in modern hives.

This is a point I have not seen mentioned in the skep controversy.

I am not advocating the return to the skep, but to me it suggests this lesson:—Date the year on one lug of each frame, when it is put in the hive, and limit the life of that comb to a reasonable number of seasons. One of our greatest experts once told me that I could use my combs five years. I think, after this experience, I shall put on a much shorter limit.—BELROYD.

Get a Move On.

[9836] Your correspondent, J. P. Cheyne, evidently believes in "getting a move on," as he appears from his letter to have been moving about a good deal in the last few years, and apparently expects "*My* Association"—mark the "my," please—to keep in touch with him during his wanderings. As a matter of fact, by a rule of the Association he *once* belonged to, but resigned from three years ago, "any member whose subscription is more than one year in arrear ceases to be a member until such arrears are paid." He has been a member, he says, "for the past two years of an adjacent County Association." Here, then, is the Association he should look to for assistance surely, and not to the one he resigned from?

But to turn to another class of "Member," and to show what can be done to advance bee-keeping, I will cite the case of a lady who joined the Association he criticises last April. She set to *work* to arouse enthusiasm in *her* locality, organised a public meeting in the Town Hall—350 present—also a course of Lectures on Bee-keeping, all well attended, a Summer Show, which was another great success, and finally organised a strong local branch of the Association in the town she resided in. She believed in "getting a move on," and proved her "faith" by her "works." Now, Mr. Cheyne, "go and do likewise." Associations are only what individual members make them, and if your correspondent will only take the trouble to organise a

monthly meeting of bee-keepers in his district he need never lack a speaker if he will only apply to his County Association.

I think, Mr. Editor, it would be a "move" in the right direction if you could spare a little space to announce forthcoming lectures on bee-keeping. Here are two to begin with:—

Essex. — Clacton-on-Sea, St. Osyth Church Schools, Saturday, January 18, at 7 p.m. Lantern lecture, "How to Start Keeping Bees."

Woodford Y.M.C.A., Grove Road (George Lane Station, G.E.R., or Motor Bus No. 10), Thursday, January 30, at 7.30 p.m. Lantern lecture, same subject. —HON. SEC., *E.B.K.A.*

[We shall be very pleased to announce any lectures that are sent on to us.—EDS.]

Queens Mating More than Once.

[9837] Does this happen more often than is commonly supposed? That a queen occasionally mates more than once has been noted from time to time: it is supposed only to happen now and then; but might not the answer to my query be in the affirmative?

This last season, on August 21, I found a dead drone at 11 a.m., evidently spent, on the alighting board of a hive that I knew had a young virgin queen. I took away the body and spent an interesting morning examining it with a glass. In the evening of the same day I found another dead drone on the alighting board of the same hive. He also had fulfilled the duty assigned by Nature. This young queen had got quite a nice lot of capped brood, and brood in all stages when I last examined the hive on September 20, on packing down for winter.

I might add, I never noticed such a sudden and abrupt ending to a season before. Bees worked hard till the 15th, and then not a bee showed, though some mustard they had been working on was still uncut.

There are, I hope, some interesting notes to be taken from this hive this year of grace, 1919!

To begin with, will she prove an extra-prolific queen? It is a clear case of in-breeding (mine were the only bees in the district), for I re-started in May with a cast bought from Mr. Claridge. Will this affect their working qualities and stamina? If the drones had been from different apiaries, it would have been extra interesting to try and trace whether the brood showed any marked differences: for instance, if one drone had happened to be Italian and the other a Black. As things are, the queens and drones were both by a Dutch queen. Mr. Claridge might possibly know the strain of his drones, but I think he had mostly crosses with a lot of Italian in them.

Having only her own ovaries, but an extra well filled spermatheca, will she be profitable to keep till 1920? A queen bee's matrimonial efforts are peculiar at best, but they have been studied, or we should not know about parthenogenesis. Has any research been made re this double mating and its results?

W. J. L.'s article, 9821, interested me very much. I think there is sound sense in his indictment of low and long alighting boards. A bee in good health, no matter how heavily laden, will land on a small alighting board and run straight in, but there ought to be some sort of wind-break, such as a hedge, or a belt of trees, to keep heavy direct blasts from the entrances. I knew this before, but tested the value of it severely this last year. I was in a camp, pitched in a very exposed position, which got the full force of every wind that blew, with the result that tents and marquees were constantly being wrecked. My bees, on stands about 30 in. high, were handy, but partly sheltered by trees. Forage was plentiful and close at hand. Often and often I noticed my bees working on days when the wind made life under canvas a burden. How they worked their way against it often puzzled me; but out they went. I've watched them coming back down wind so fast that the eye could hardly follow them till they reached the shelter of the trees, when they steadied, pulled themselves up, with a turn about a yard from the hive, then dropped singly and in groups on the alighting board *within an inch or two* of the entrance, and straight in. Very few ever missed alighting at first attempt, though occasionally I saw one evidently resting on a branch or on the roof of the hive. I never saw a sign of disease. Mine were the only bees in the neighbourhood, though in a first-rate bee county. All my inquiries were met by the same answer: Dead: "Isle of Wight" disease.

There were wild bees in the woods, for a swarm came from a wood, passed close to my hives, but disappeared into another wood about a mile away. This rather bears out W. J. L.'s statement that bees in a wild state are free from disease. With alighting boards and entrances well off the ground, "crawlers" cannot get back, but a healthy bee, even under adverse winds, has no difficulty. It may mean a few old bees with worn wings, though otherwise healthy, fail to bring a last load home, which they might have

done with an alighting board reaching to the ground to help them, but the loss of a few of these old heroines is more than compensated for by the impossibility of any sick crawling home. It will be interesting to watch this effort to evolve a breed of disease-resisting bees, but the question naturally arises, how is one going to work for surplus, put on racks, and generally carry on manipulations among the tree tops? W. J. L. is surely not going back to the old skeppist methods, trusting to luck for what surplus he can get, while breeding for immunity! His hay loft is "O.K.," but it is not everyone who has such a bee-house ready to hand. Wishing him and all other bee-keepers success and a record season, whether they go in for the practical, experimental, or scientific side of our most fascinating craft.—F. S.

Symptoms of "Isle of Wight" Disease.

[9838] I have read Mr. A. B. Heaven's letter on "Symptoms of 'Isle of Wight' Disease" with interest. What he describes as happening to his bees is what happens to the large majority of apiaries in England, from what I can gather from friends and my own experience.

The most successful bee-keeper I know never feeds his bees, never uses any so-called cures. He always has the disease in a mild form in one or two of his hives. He never destroys a comb, but hives bees upon combs that have been denuded of bees. He masters the disease by re-queening every May, and by keeping up large stocks, but never trying to get large stocks until the big honey flow, which in his district is from early July until mid-September.

He and I agree that bees get no appreciable quantity of honey from the blossoms of plums or apples.

I was pleased to be able to pay him £100 for honey that had cost him in the getting 15s. this season.

He has hives with 20 brood frames, and this is what a good Italian queen requires if you wish to prevent swarming.

Away with the small hive; it is a snare and a delusion. We want big hives, full of bees in July (and not before), headed by a young queen, introduced early in May. Coddling bees in blankets in winter time is quite a waste of blankets and labour.—R. Oswald Fordham, Biggleswade.

[Given favourable weather conditions, bees do get an appreciable quantity of honey from plum and apple bloom. In fact, there are districts where these blossoms are the source of any surplus the bee-keeper may get.—Eds.]

Notices to Correspondents

E. P. Perkins (Aberystwyth).—*Moving bees.*—You may move the bees direct to any fresh location in the garden after they have been confined to the hives ten days or longer by cold weather. As a further precaution against bees returning to the old stand, rear a piece of clear glass in front of the entrance.

"Memo" (N.B.).—*Purchasing bees abroad.*—From inquiries we have made, we learn it will be very difficult, if not impossible, to import stocks or swarms of bees from Switzerland or Italy. We do not know any other breeders at present than those you name.

F. W. Roberts (Leicester).—*Micro. slides of Nosema apis.*—We do not know where these can be procured. Get No. 8 Supplement to the Journal of the Board of Agriculture, 1s. post free, from the Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W.

E. Charlton (Carlisle).—*Plans for making W.B.C. hive.*—You will find these in "The Practical Note Book," price 1s. 2d. post free from this office.

E. M. C. (Dewsbury).—*Powder in combs.*—This is the remains of pollen which has become infested with pollen mite. Fumigate with Formalin, sulphur, or bisulphide of carbon, after shaking out as much of the powder as possible and burning it. The mite only attacks dry pollen in combs that are not occupied by bees. The value of the combs will depend on their condition, say, 6d. or 8d. each. As a precaution, treat as advised in reply to W. Morgan.

Suspected Disease.

F. C. Caff (Truro), J. Langdon (Exeter), T. J. Sides (Knottingley), E. L. Donner (Surrey).—Bees were affected with "I.O.W." disease.

"Beverlac" (Yorks).—Both lots had "I.O.W." disease.

S. Sawyer (Surrey).—Natives, with just a trace of Italian. We do not find disease. The yellow spots are excrement voided by the bees when taking a cleansing flight on a warm day.

"Houston" (Dorset).—Natives, and affected with "I.O.W." disease.

"Novice" (Essex).—Native. We do not find disease.

W. Morgan (Kent).—Bees died from "I.O.W." disease. There is always a risk in using infected combs. Extract any honey or syrup, and soak them for several hours at least in a 5 per cent. solution of disinfectant and water. Then clean them well by syringing the solution well into the cells, with a garden syringe, to remove any honey left in them and as much of the pollen as possible. Then syringe with clean water, and hang them in an airy place to dry.

Weather Report for the Year, 1918.

Westbourne, December, 1918.

Rainfall, 28·17 in.	Maximum temperature 81 on Aug. 22nd.
Heaviest fall, 1·46 in. on Jan. 15th.	Minimum temperature, 19 on Jan. 4th & 9th.
Rain fell on 196 days (av. 180.)	Minimum on grass, 4 on January 9th.
Below average, 3·12in.	Frosty nights, 43 (av. 73.)
Sunshine, 1589·2 hrs.	Mean temperature, 50·2
Brightest day, May 31st, 14·5 hours.	Above average, 1·6
Sunless days, 69 (av. 61.)	Maximum barometer, 30·732 on Feb. 26th.
Below average, 205·4 hours.	Minimum barometer, 29·294 on Sept. 23rd.

L. B. Birkett.

Forming Nuclei.

One of the tasks before bee-keepers for some time to come will be re-stocking the country with bees. This work will receive a stimulus from the scheme of the Food Production Department of the Board of Agriculture, by which it is intended to supply nuclei headed by Italian or Italian hybrid queens to those needing bees. In addition to that scheme, many of those who are fortunate enough to possess bees in the spring will wish to increase their stock by making nuclei, and, to help these, one of our readers who is a most enthusiastic bee-keeper sends the following extract from that splendid encyclopædia of bee-keeping "The A B C and X Y Z of Bee-keeping," published by the A. I. Root Co. The article was written by Mr. W. W. Somerford, Navasota, Texas. To make it a little clearer our correspondent has written the article in numbered paragraphs, and has also emphasised one or two points, the italics in all cases being his :—

"1. To begin with, remove the queens or cage them in all your fancy stock, after getting the brood nest well filled with brood (the more the better—eight or ten frames in a hive if possible).

2. Wait ten days after removing the queen, when the bees will generally have cells (queen) on each and every comb, and be in a broody or listless condition, waiting for cells (queen) to hatch.

3. Divide and remove the frames quietly, giving each new hive two frames of brood and all adhering bees, and one good frame of honey, using it for a division board (and, by the way, such division boards are, to my notion, the best in the world).

4. Put the two frames of brood bees next to the wall of the hive, and let the honey frame be the third from the side of the hive.

5. Be sure to see that you have at least one good, ripe-looking cell in each new hive or division, and don't forget the frame of honey.

6. As soon as each division is made, stop the entrance of the hive by stuffing it full of green moss. If you haven't any green moss, use green grass or leaves, and be sure to stuff them in tight—as tight as though you never intended the bees should gnaw out: and be sure there are no cracks or holes that a single bee can get out at, for if there are, your division will be ruined by all, or nearly all, the bees that can fly leaving it.

7. Each parent colony should make four or five good divisions that will make booming colonies in 40 or 50 days, and I have had them, the best in the apiary, in less time.

8. Leave or loose the old queen on the old stand (if not too old), and the bees will work straight ahead, as they don't have to be confined to make them stay at home.

9. Don't be uneasy about the divisions that are stopped up, unless you failed to stuff the entrances well, for they *will not* smother, but busy themselves gnawing at the moss or grass for two or three days, possibly four or five, if you have done an extra good job at stuffing the entrance. At the end of that time you will find they have all gnawed out, so as to secure egress and ingress. Then you can move enough of the grass or moss to give them a clean entrance, 1½ in. or 2 in. wide, and by looking into them you will be astonished at the quantity of bees you have in each hive (and they, too, well satisfied), having consumed so much time in gnawing out that the queen had time to hatch and kill off her rivals and be ready for the wedding trip by the time the entrance is cleared.

10. So, instead of, in a week's time, having a worthless, weak division, with a *chilled*, inferior queen, as in the case in the old-style way of dividing, where nine-tenths of the bees return to the old hive, you have a strong, vigorous queen and a nice little, *satisfied* swarm of bees, ready for business in the way of pulling foundation before they are three weeks old.

11. I have succeeded with nineteen out of twenty divisions made in the above way, when I did not even see them until the third week after dividing as above; and for the average bee-keeper who has out-apiaries I think there is no better way in the world to make increase. If there is, I'd like to see or hear of it while the expansion question is being aired

12. In the above method of increasing you have no queens to buy, no robbers to bother with, and but little time lost, as an expert can make 20 divisions in an hour."

Donations for Royal Show.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this

work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

	£	s.	d.
Amount already acknowledged	2	9	0
Major Sitwell	1	0	0
Mr. G. Bryden	0	10	0
Mr. J. Pearman... ...	0	5	0
Mr. E. J. Thompson ...	0	2	6
Mr. G. Patterson ...	0	2	6
	£4	9	0

A Dorset Yarn.

Those who have read Charles Dickens will remember his description of Circumlocution Office. It seems to be the same to-day with Labour Exchanges, Food Production, and Government offices for demobilisation of our soldier sons. We do not get the men home; that is what we want—men in productive work, not destructive. I applied six weeks since for mine, but am not successful yet. Having to wait this last week at the Labour Exchange at Bournemouth, I went to the Free Library. There the children are encouraged to bring units of the vegetable kingdom for classification. The "wee crimson tipped daisy" was one of them, and, what I have not seen since the days when I worked in the gardens of the wealthy, the "Winter Heliotrope," a composite flower, with small bronze-coloured foliage; the perfume is most seductive, and was the admiration of many, who, like myself, are always looking for something good.

This has been a winter of flowers; there has been no severe frost with us, and many flowers have never finished blooming from last season. Here the willows are bursting their buds, and the blossoms of laurels have 3 inches of their racemes already grown. The yellow gorse has not been out of bloom at all this season; it only stops blooming when continuous wind and frosts come.

Bees seem to take advantage of the mild times, for when it does not rain they are to be heard chanting their songs, as if they thought that summer was at hand. They seemed to be out in crowds on Sunday, the 12th, and on Friday, the 17th, which proves that my lot are going strong yet. They were all close to the hives; they did not fly away. I went to look at a neighbour's field, where charlock was in flower (among swedes), 3 feet high, but they had not gone so far. This flower, with radishes, has been in bloom continuously this season. This proves to me that for winter help to bees, the food plants must be close to the apiary, as our Christmas roses are. Instinct warns them that they must not travel far, or disaster awaits them. Flowers that give them fresh pollen, as does the Hellebore, must be a great help to them. Other members of Hellebore are in blossom now beside "niger,' the Christmas rose. There are some with long stems, 9 or 10 inches, with two or three flowers on a stem, carrying a lot of pollen on the anthers, but unless they are in close proximity to the hives, the bees would not get the advantage of fresh pollen in mid-winter.

I notice one of your contributors calls attention to quotations not being correct. Have hesitated lately in using any of them, as memory is not to be depended on, and one has not time to see if they are correct. One remembers the greater part, and some stanzas are so beautifully worded, one has them written on one's memory, though the book in which they were first seen must have been read in the early days of manhood. "The Deserted Village" is one of them. I could repeat the greater part after all that time has passed; but it would not be word perfect. All who have tried to entertain an audience with elocution know it would never do to stop if one had not the correct word at the proper time; but it is imperative to follow on, and so long as one gives the sense of what is to be taught, the majority of the audience would never now. Am glad that readers of the BEE JOURNAL are better read than the writer of these yarns. I would not willingly write what was not a correct quotation; but all these beautiful strings of words are a great source of pleasure to the simple tiller of the soil when he considers that great men saw the same things in other days, and wrote of them so enchantingly. Whole chapters of Maeterlinck's "Life of the Bee" are so beautifully written that the memory of those who, like myself, have read it only once, carries it always. He writes of what we have seen so many times, and describes it so beautifully that it seems impossible to forget it, but a quotation would not be word perfect. I could not correct it—I lent the book to others, and it has not come back. Please accept my apologies for faults.

A lady writes me of good sections and a market for them. If you have anything to sell *advertise it;* you will soon find a buyer. But for sections of honey to reach the buyer in good condition by rail without careful packing is impossible. A friend of mine told me he could have no more from

Wales, as so many of them were damaged in transit. Most of us have our own system of packing sections. But what will do for local markets would not be of any use for distant ones. Books give us good instruction on safe packing, but many bee-keepers have not the books. The only instruction they get is from the JOURNAL. Our Editor might give a good, safe system of packing for the many bee-keepers who want to send sections to distant markets. What is wanted is not too heavy, as the extra rate by passenger train for parcels all adds considerably to the cost; but it must be secure.—J. J. KETTLE.

[We will give instructions on this subject in an early issue.—EDS.]

The Value of the Chapman Honey Plant.

Dr. C. C. Miller writes as follows in "Gleanings in Bee Culture" for December last :—

"After reading the BRITISH BEE JOURNAL of September 26, I should have made a vigorous effort to secure a supply of seed of *Echinops spherocephalus*, if I had had no previous experience with the plant. A. Harwood, in an interesting series upon bee plants says of this plant: 'No bee plant that I have ever grown was so attractive to the bees. Whenever the weather was favourable the heads were crowded. I have counted fourteen or fifteen bees on one at the same time.'

"This is the Chapman honey plant that had a big boom in this country a number of years ago; but it is not heard of now, and is not included among honey plants in the bee books. Upon its introduction I planted quite a patch of it, and, like Mr. Harwood, I never saw bees so thick upon any other honey plant. But close observation showed that the bees were not in eager haste in their usual way when getting a big yield, but were in large part idle, and it looked a little as if the plant had some sort of stupefying effect upon them. At any rate, I should not take the trouble to plant it now if land and seed were furnished free."

Sheffield and District Bee-Keepers' Association.

ANNUAL MEETING.

There was a good attendance of members at the annual meeting of this association, held on Thursday, January 9, at the Tontine Café, Haymarket, Sheffield, and, in the absence of the President, the chair was occupied by Mr. W. Ball. The Secretary, Mr. W. Garwell, presented his annual report and balance sheet, which showed the substantial balance in our favour of £17 10s. 2d. Mr. Wm. Bashforth moved, and Mr. Wordsworth seconded, that the report and balance sheet be passed as very satisfactory, and it met with unanimous approval. Letters were read from the County Hall, Beverley, in reference to the restocking scheme, and all present were unanimous in the opinion that, until we had legislation on the subject, the restocking scheme would be doomed to failure, but it was decided to support the bee sub-committee all possible in their effort; at the same time, the Secretary was asked to get as many signatures of bee-keepers as possible in favour of legislation.

It was unanimously decided to hold our meetings in future at the Tontine Café, on account of the much better accommodation, and, after some discussion, it was decided to hold our meetings at 7 p.m. instead of 8 p.m., on the second Thursday in each month. The following officers were elected for the ensuing year :—The President, W. J. Garnett, Esq., was re-elected; vice-presidents, J. D. Outram, Esq., C. D. Leng, Esq., C. M. Hansell, Esq., Wm. Ball, Esq., T. Holland Nelson, Esq., Eric J. Outram, Esq.; the secretary was re-elected (*treasurer and secretary*); hon. auditors, Messrs. Wm. Bashforth and W. Bromich; committee, Messrs. S. Livsey, R. Ridge, J. Palmer, T. Nelson, Wm. Bashforth, G. Warburton, G. Wolstenholme, and it was left in the hands of the secretary to add a lady bee-keeper to the committee.—*Communicated.*

Staffs. Bee-Keepers' Association.

ANNUAL MEETING.

At the annual meeting of the Staffordshire Bee-keepers' Association, which was held in the County Education Building on Saturday, January 11, the Rev. A. R. Alsop presiding, there were about ninety members present, this being one of the largest attendances on record.

The secretary, Mrs. Saint, reported that the association now had 282 members, ninety having joined during 1918. Examinations for the British Bee-keepers' certificate had again been held. Mrs. Saint and Mr. Jackson had each gained the first class, whilst Messrs. Abell, Cowleshaw, Hope, and Smith had successfully passed the preliminary test. The medals given by the Association to the Cannock Horticultural Society were awarded in the first class (open to members of the Association) : silver, Mr. T. Cowleshaw; bronze, Mr. Collis; in the local class Mr. T. Cowle-

shaw and Mr. Partridge were each awarded a bronze medal. At the Stafford Pageant Horticultural Exhibition, Mr. Valon was awarded the silver medal, and Mr. Collis the bronze medal. It was intended, with the assistance of the County Education Committee, to provide a library, from which books interesting to bee-keepers might be borrowed by members of the Association.

The balance sheet showed that the total income amounted to £134 14s., including a balance of £65 brought forward, and subscriptions, £53 10s. There was a balance in the bank of £51 3s. 11d. The assets and liabilities account showed a balance of £60 8s. 11d.

The chairman referred to the death of Mr. Forse, the honorary secretary, who was killed in action, saying that he was a man of high character and purpose. They also regretted that Mrs. Saint was retiring from the post of secretary. She had done the work admirably since Mr. Forse had joined the Army. The vacancies on the committee were filled by Dr. Mackenzie, Mr. Frank Amies, Miss Parker, and Mr. T. Mottram.

Mr. W. Griffiths, Silkmore, Stafford, was appointed secretary, in place of Mrs. Saint, who was thanked for her willing and efficient services.

Mr. Price, the County Council Expert, to whom the association is greatly indebted for the great help he has been during the past year, gave a review of bee-keeping in the county, saying that he had visited 1,000 places where bees were kept, or had been. He had been obliged in many cases to destroy stocks which were affected with "Isle of Wight" disease, and had taken other steps to prevent the spread of disease.

A lecture, illustrated by lantern slides, was given by Mr. W. Herrod-Hempsall on "Bee Disease and Pests," which was most interesting and instructive. Several questions were asked at the close of the lecture.

Tea was afterwards provided for the members.—W. Griffiths, hon. Sec.

Notes on "Isle of Wight" Disease.—III.

SELECTIVE BREEDING.

Having referred to the invaluable help of a competent and constructive *State supervision* in combating infectious bee diseases, our attention should next be directed to the possibilities of *scientific research* in facilitating our task. Efficient State supervision will undoubtedly help to isolate and destroy many sources of infection, but having regard to the fact that at least one form of "Isle of Wight" disease (namely *Nosema Disease*) is not confined to the honey bee, but widely occurs in some other insects, which are thought to be capable of introducing it in healthy apiaries, and having regard to the wandering nature of the foraging bees, it is useless to be content with State supervision, but to endeavour also to protect our colonies by other means. State supervision, cleanliness, and the most up-to-date management will not suffice to eradicate infectious diseases if we remain satisfied with breeding susceptible, or degenerate, strains. The bee herself—the living material with which we have to deal—should be given greater thought than she has hitherto received.

With the exception of exceedingly few breeders of bees in this country, the mass of the so-called "specialist breeders" here are not worthy of this title. It appears to me that the majority of them are most ignorant of the principles of *Genetics* (the science of breeding), and usually adopt haphazard methods, followed by wild claims for the qualities of their special strains, which are generally far from being accurately defined, controlled, or methodically selected by successive experiments. The least trouble is usually taken, and the greatest claims are generally made. Nevertheless, some good has resulted from introducing various "hybrids" of the Italian bee, though a more appreciable benefit would, no doubt, have resulted from a better guided experimental breeding.

No accurate and impartial knowledge is available regarding most types of the honey bee, so far as their distinctive habits, their advantages and disadvantages, and their commercial possibilities are concerned. Authors of works on bee-keeping have no practical source of information on this subject within their reach, and they are obliged to quote from previous works. The result of such a practice is that not the slightest advance of our modern knowledge on this important subject is being made; and that our efforts in the sphere of breeding, misguided as they are, are limited through the influence of bias to a very few strains. Research in this direction is greatly needed, and although knowledge, experience, money, and other facilities are necessary equipments for the conduction of fruitful research (so much so that it often becomes the duty of the State), yet, so far as bee culture is concerned, this and many other matters could have been profitably investigated by the leading bee-keepers' associations, had these associations received the necessary encouragement in the form of financial aid and voluntary co-operation from their members, and in the form of

occasional grants from the Government.

Although this century has been degraded in its early part by the greatest massacre in the history of mankind, still it promises, on the other hand, to be the dawn of peace and helpful knowledge. Literature, science, art, and every branch of culture, both simple and advanced, general and technical, are within the grasp of every section of the community in popular language, and at a small cost, thanks to the development of the various educational publishing societies and similar organisations. Apiarists specialising in breeding, cannot afford to be without the necessary equipment of scientific knowledge, apart from their ordinary practical experience. Those who do not care to seek this knowledge are certainly not fit to undertake such a difficult and delicate task. It is obviously not in the interests of progressive bee culture to encourage the non-scientific efforts of unqualified bee-keepers claiming to be specialists in breeding. Such men (who, of course, do not belong to our reputable breeders) generally make no use of more than two strains of bees, and are influenced by secondary qualities, such as colour and the like, and often fail to study in an impartial manner the good features and defects of their developed strain with the object of improvement and standardisation. Thus, they do not render any service to bee-keeping by adopting these methods; and when they are careful enough to make wild claims and to charge exorbitant prices for their products, they are rendering a bad service to the cause of bee-keeping.

No doubt the inferior class of breeders will not be able to maintain their purely commercial position for a long time. The extension of knowledge and the introduction of better principles and methods in apiculture, apart from the encouraging features of most of our new recruits, foreshadow the certainty of a higher standard of bee-keeping, commercial as well as educational, in the near future. I need not be concerned, therefore, except with our respectable breeders, whose welcome effort in selective breeding has been a truly good service, and should be encouraged and criticised in a constructive spirit. Constructive, as opposed to destructive, criticism is the best that an impartial and a genial observer can offer in the way of help by co-operative thought. It should be appreciated, and not resented, by our best apiarists, who have amongst their first motives the genuine advancement of the science and craft of bee-keeping.

In endeavouring to create new "hybrid" strains of bees, which are naturally resistant to "malignant dysentery," only very few varieties of bees have been experimented with, even by the most eminent British breeders. The Tunisian, the Egyptian, the Syrian, and several other strains have hardly been tried. The advancement of knowledge alone would demand this trial. Even a superficial knowledge of *Mendelism* will assure the breeders that he is not wasting his energies by experimenting with strains which, in a pure condition, do not very favourably impress him. Extensive experiments, and the critical analysis of the possible states of *variation* and *reversion*, according to Mendelian laws as applied to bee culture, and the distinction of the inherent, or natural characters from the acquired, or nurtural characters of pure strains, have first to be done, before one or more definite courses of scientific breeding can be decided upon by the zealous and conscientious breeder. The task of the specialist breeder is by no means light. It is an intelligent work based on scientific data, which *must* be thoroughly studied in a far greater measure than they are known at present to the average apiarist specialising in breeding.

My personal opinion on this matter may, therefore, be summed thus: selective breeding, if scientificially practised, is most valuable in raising the health standard of our bees. Partial encouraging evidence exists, although the present efforts are much limited. Unprejudiced research by competent workers in this field is urgently required, in order to help us with a more effective natural weapon for fighting disease.* A. Z. Abushady.

* The previous article on this subject appeared in the B.B.J. for January 16, in which, page 15, col. 2, line 58, the word "risking" should be read "rescuing."

Wilts Bee-Keeping.

County Committee Starts Work.

In connection with the request made by the Food Production Department of the Board of Agriculture, the Wilts County Agricultural Committee have undertaken to prepare a register of the bee-keepers in the county, with a view of getting their ration of bee food, and of organising a bee restocking scheme for the county. The County Bee Committee (comprising well-known experts), which was called into existence by the County Council's Horticultural Committee, met at the County Offices at Trowbridge on Saturday, January 11.

Mr. C. H. Corbett, secretary of the committee, presented the returns of bee-keepers in the county, which were considered very satisfactory.

The committee went into all the details of the proposed scheme and requirements

of the bee-keeping industry, and it is hoped, as a result of their findings, a strong county Bee-keepers' Association will be established. Considering that the Agricultural Committee have at their service about 60 bee experts, consisting of schoolmasters and others, the whole county can be covered with little difficulty.

It is proposed to organise local associations in all parts of the county, these to be linked up with the County Committee.

The work the committee will undertake includes a scheme for restocking the county with healthy and, as far as possible, disease-resisting bees, by establishing a number of restocking apiaries under the charge of experts, who will rear stocks which will be distributed to members of the associations at a fee to be arranged. A fund is to be established to provide the experts with bees and appliances, and to this it is hoped a generous response will be forthcoming from those who are anxious to resuscitate and develop the bee industry in the county. The scheme is being prepared by a sub-committee, and will, it is hoped, have the full support of every bee-keeper, so that by their combined efforts the Government may be pressed to pass a Bill to stamp out diseases and to encourage beginners in the craft by lectures, demonstrations, honey shows, insurance of bees, and the marketing of bee produce.—J. E. PINDER.

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

217. Devise a simple register for use in connection with each hive in an apiary.

218. How many worker cells are there to a square inch of comb? Also, how many drone cells?

219. What are transition cells, and where and why may they occur in a comb?

220. Mention briefly the losses and disadvantages to which the bee-keeper is subject who uses skeps or box-hives instead of movable-frame hives.

221. Enumerate the methods which have been devised for the spacing of frames, and state briefly their merits and demerits.

222. What are the characteristics or qualities of a poor queen?

223. Why is it preferable to put a second super under instead of over the first?

224. How has it been shown that bees use the wax of foundation for drawing out the comb thereon?

225. What can be done to prevent the propolising of an excluder to the tops of the frames upon which it is placed?

226. What precaution can be taken to prevent the introduction of foul brood disease when a queen is obtained from another apiary?

227. Amplify the saying that "the best time to do spring feeding is in the autumn before."

228. Make notes for a 15-minute lecture on "The Links between Apiculture and Horticulture."

J. L. B.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Cause of Infection.

[9839] Since recently you informed me my bees had the "Isle of Wight" disease I have been most interested in the correspondence in the B.B.J. about it. As to the cause of infection in my case, it looks like either mice, earwigs, spiders (all found), or cork dust I used to make a quilt of. Taking the last first, it comes from a foreign land, and the colour is similar to that of the excrement from bees suffering from malignant dysentery, so that it would be a suitable hiding-place for the spores, and it does not seem to be used for skeps. As to the three others, the bees up the 60-ft. gasometer were healthy for years, and would be molested by none of them, and some bee-keepers seem to think of height as affecting the chances of infection—in a natural home in a tree, for instance, bees remained immune, liable to earwigs and spiders, but, moved to a hive near the ground became infected; and yet one correspondent says his bees caught the disease from a swarm settling in the gable of a house near by—*i.e.*, high up, but liable to the visits of mice, earwigs, and spiders.

In skeps, even if near the ground, mice would be practically unable to climb up inside a conical shape; to some extent earwigs and spiders could. Also the combs

of a skep might not be near enough to the floor for mice to ascend that way, thus in many cases giving immunity, whilst in some, and always in the frame hives, they could do so easily.

Now as to time of attacks. The end of October seems pretty general for them, but during the autumn the doors of the hives have been kept close to prevent robbing; then earwigs and spiders could get in, but mice could not. During October, for wintering, the doors are opened, and in can come mice; at times of May-pest and spring dwindling, also, the doors are wide open. But then crops up the possible period of incubation of "Isle of Wight" disease. Six weeks seems the minimum period, so far as I have gathered, though some correspondents seem to put it at eighteen months, or even longer; but is it so? Illnesses of the lower orders are in duration in proportion to the length of their lives. In the usual complaints of childhood, the period of incubation would be up to about 21 days as a maximum in a life likely to last some 60 or 70 years; in the life of a bee living six weeks, it would, at a similar rate, be a case of minutes only. Even suppose it to be similar to human dysentery, which I have heard may remain dormant for some ten years—say, one-sixth of the human life—it would work out, in the case of an average bee, at a week for a maximum, but in the case of an autumn-hatched bee (living some nine months), about six weeks, which agrees with the popular estimate. But the queen lives far longer than other bees, and so would have a good chance of building up the hive before the disease developed in her, and would have plenty of nurses when ill, or could be superseded.

To my mind, putting the period of incubation for an ordinary bee at 18 months would be similar to saying that if one of our present Queen's maids of honour were unfortunate enough to contract measles or the "flu" at Windsor Castle, she caught it direct from a bacillus given off by a maid of honour of the time of Queen Anne, or even one of Queen Elizabeth's. On the whole, I think the biggest chance of infection is miee, with their furry coats (and parasites on them in many cases) running in and out from hive to hive, bringing and carrying infection. I wonder if in neighbourhoods where there is freedom from disease there are few mice, or if bees with very long stings or some peculiarity of sting (in the different races or individuals) are only able to pieree the tough skins of mice and so drive them off and thus remain immune, or if mice object to chloride of lime or the other recommended germieidal remedies. Or may not on occasion the unpacking of a hive to spray the combs dislodge or scare off an intruder carrying infection? Or might not sometimes a hive be placed on an improvised stand which from its shape they might be unable to climb?—BAR-FRAME.

[It is possible, if mice are able to get in and out of hives with impunity, they would spread disease, but we imagine very few frame hives have an entrance high enough to admit a mouse during the winter, and they are not likely to attempt to get in during the summer, or they would meet with a warm reception. EDS.]

Notes and Comments.

[9840] May I correct Major Sitwell (9837, B.B.J., January 16) in his impression that my bees are, or were, mostly crosses with a "lot of Italian in them." After my first season with hybrids I have never kept any other than pure Italians, imported direct from Signor Penna, of world-wide fame. If Major Sitwell will recall how I demonstrated with hives, using no smoke or veil, he will realise that they could not have been "crosses," or else they would have been "crosser."

The cast which he purchased was a chance lot, bought from a labourer to save myself from the annoyance of having "skep-boxes" close to me which would in this case be most certainly neglected. If they had not been sold they could have been promptly re-queened. To the best of my knowledge they were of Dutch extraction, but could hardly be pure.

His record of finding two dead drones on the alighting board of one hive is interesting, besides being a curious coincidence, but I venture to doubt the evidence of both "in-breeding" and "dual-mating." For the first, he mentions wild bees in the woods, and a swarm of these passing close by his hives, so there is plainly a possibility of cross-breeding. With regard to the "dual-mating," the drones might have mated with virgins from these wild bees, and it is hardly likely that the drone meeting the queen of any hive would fall just on front of her own hive. It is an incident which could bear several explanations.

W. J. L.'s statement to the effect that wild bees are free from disease is not borne out by facts in my experience, for I could show him two colonies, each in a very tall tree quite 30 ft. from the ground, another lot in a church roof, and yet another lot in the walls of a house, all of which are suffering, or did last season, from "Isle of Wight" disease, *but* they still linger on! So there is a possibility that W. J. L., or someone else, has noticed a certain colony, say in a high tree, and observes that there are bees there year after year, at once jumping to

the conclusion that they are free from disease! How they manage to survive I cannot explain, but in one case I know for certain they had died out, and the tree was unoccupied a whole year, when a swarm of almost pure Italians took possession, and their descendants—most certainly "cross" in every sense—are still there, or were last year, still suffering from "Isle of Wight" disease.

Whether it is an advantage to have large extension alighting boards I do not propose to argue, but for skyscraper hives, with tremendous populations, a wide alighting board is very necessary, for when the bees crowd home when working full pressure, or hurrying home when a storm threatens, or even after a play spell of young bees, when a cloud has covered the sun suddenly, I have seen my 9-in. alighting boards thick with bees toppling over each other in the wild scramble for safety.

It is well known that long-continued *cold* damp lowers the vitality of any stock, hence there may be more in the theory that we have our hives too close to the ground, than at first appears. If we could do as the Yankees do, and take them all in a dry cellar, many stocks might winter better, but anyone who has a really dry, airy shed with an open front might make the experiment—I wish I had the facilities—but such management must be looked upon only as a means of wintering them better with a view to improving their stamina.

We shall all be interested in the results from W. J. L.'s "Hay-loft" apiary although the idea is not altogether new. —F. M. Claridge.

The Busy Bee.

Great indeed is the amount of work which a busy bee will do in a day. Every head of clover consists of about 60 flower-tubes, each of which contains a very small quantity of sugar.

Bees will often visit a hundred different heads of clover before retiring to the hive, and in order to obtain the sugar necessary for a load must therefore thrust their tongues into about 6,000 different flowers.

A bee will make 20 trips a day when the clover patch is convenient to the hive, and thus will draw the sugar from 120,000 different flowers in the course of a single day's work.—*Teachers' Times.*

Wanted, Hive with Straw Sides.

Can any of the readers of the Journal give me the name of a manufacturer of bee appliances that makes a straw hive that will take the Standard frame?—Isolated.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"Beginner" (Portsmouth).—*Bees dead on drying flannels.*—We have not before heard of bees alighting on flannel, in which their feet have become entangled, and held them prisoners until they died of exposure. It is not likely to happen frequently, and we do not think it worth while moving the hives.

J. H. Willmott (Wellingborough).—*Variety of bees.*—They are what are usually described as Italian hybrids. It is no unusual thing for these to be very vicious.

S. Marfleet (Freshwater).—*Keeping spare brood combs.*—Store them in an airtight box in a dry place. If you are troubled with pollen mites fumigate them first, as advised in this column last week to E. M. C. Put six or seven balls of naphthaline in the box.

R. Atchison (Hampstead).—*Painting inside hive.*—You may paint or varnish the inside of the hive. Whether it is better to do so, or leave the wood bare, is a matter of opinion. We do not object to paint inside the hive, and your argument that disease germs would be better able to penetrate bare wood is quite sound.

N. A. S. (Halifax).—*Quantity of heather needed for surplus.*—(2) We cannot say exactly, but we should not care to be at the trouble of moving the bees unless there were at least from 50 to 100 acres. (1) Natives, or Italian hybrids. (3) It depends on the weather. They will work it up to two miles away. (4) The district is not a good one. Probably you have to depend on the heather for your surplus, and that source is very uncertain.

"Born on a Friday" (Oxon).—(1) We cannot say without more particulars, but it is quite likely that "I.O.W." disease was the trouble. (2) The dark colour of comb is caused by it being used for brood. (3) It was a queen.

N. Wood (Arnold).—You may do it any mild day.

"Headmaster" (Cardiff).—The theory that potato spraying causes the disease or death of bees has frequently been advanced, but so far there is no proof that it does so. Have you ever seen bees working potato blossom?

W. Egerton (Tunbridge).—It is not always possible to determine from dead bees if they were affected with "I.O.W." disease.

Honey Samples.

D. S. (Jersey).—The honey is pure, and as prices rule now, well worth the money.
Cells and larvæ of a Mason Bee.

"Doubtful" (Essex).—The honey is far from being dark; it is very light. It has not granulated nicely, the grain is too coarse and open. The source is mainly clover, with some blackberry.

Suspected Disease.

E. F. Bays (Harold Wood).—We do not find disease in the bees sent. You may store the combs, and use them next spring. See reply to S. Marfleet.

A Boys' School Bee Club.

We give below the first annual report and balance sheet of the Petersfield Boys' School Bee Club. The club has not been in existence quite a year, but it has justified its existence. In addition to the practical work, a series of lectures on the hive, the bees, and the work generally have been given to the members of the club, and the senior scholars in the school. This appears to us to be an exceedingly good method of not only popularising bee keeping, but of ensuring that future bee-keepers will know how to follow the occupation on the proper lines. We have known people of all ages up to 80 years commence bee-keeping, and carry it on successfully; but, as in everything else, those who commence keeping bees when young, if they only try to do so on up-to-date lines, and study the subject are likely to be the most successful. These young bee-keepers have not only had the pleasure and interest of managing their hives, but also a substantial dividend on their capital. Very few businesses will give a return equal to one-third of the capital invested with rather less than a year's working, and we are not surprised to hear that some of the shareholders on leaving school have sold their shares for 1s. 1d. and 1s. 2d. each. Both buyers and sellers have evidently a keen eye to business, which augurs well for their success in after life in other directions as well as bee-keeping. We congratulate Mr. Bennetts on the success of his scheme, and hope to hear more of it in the future.

FIRST ANNUAL REPORT OF THE PETERSFIELD BOYS' SCHOOL BEE CLUB.

On the evening of May 17, 1918, the swarm, about 4 lbs. in weight, was thrown down in front of bees' future home, and quickly commenced to enter hive (to the delight of the club members gathered round to take their first lesson in the craft) in which were five frames of foundation prepared to receive the bees. They settled down to hard work, and soon completed the combs—to which was made an addition of five frames, fitted with half sheets of foundation, on May 24. The bees continued to work well, the weather was exceptionally fine and warm, and on June 14 a rack of 21 sections, fitted with "starters," was placed on the top of the brood frames. The evenings during June, however, were frosty, thus the flow of nectar was retarded (one of the chief causes of the poor honey harvest in many districts). On June 23 (Sunday) the bees swarmed and decamped, and I was informed of their place of settlement by a man who had followed them. With skep and necessary paraphernalia I cycled to take the swarm, hanging from an elm's branch, secured it, and returned to hive in the evening, after cutting out queen cells. On three more occasions (June 29, July 4 and 8), the bees swarmed. On the last "coming out" I cut out all but four ripe queen cells, raised the hive half an inch from floor board, and returned the 6¼ lbs. swarm, three boys and myself watching for queen to destroy her and make them have a new queen, leaving them to settle about their queen. No doubt the scarcity of nectar, causing the bees to remain in hive instead of going out foraging, was the chief cause of the swarming fever getting such a hold over the stock. The nectar from limes was practically nil this year. Rain washed the bloom from the time it was in bud, till over-blown. The merry hum of bees around the limes was absent, proving the scarcity of nectar. The lime is one of our chief sources for the honey harvest. The honey harvest reports show that, generally, the year has been a poor one. However, on September 30, I took the section rack—previously placed on a

BEE CLUB BALANCE SHEET, 1918.

DR.	£	s.	d.
To 60 shares at 1s. each ...	3	0	0
* To value of stock on 10 frames	2	5	0
To value of hive, £1 15s., less 5 per cent. depreciation, 2s. 9d.	1	12	3
To sale of honey crop ...	1	18	0
	£8	15	3

CR.	£	s	d.
By purchase of hive ...	1	15	0
By foundation	0	3	1
By frames	0	4	10
By swarm (4 lbs.)	0	15	0
By candy for syrup (1 lb.)	0	0	10½
By swarm follower ...	0	2	6
By dividend to shareholders (33⅓ per cent.)	1	0	0
	4	1	3½
By balance	4	13	11½
	£8	15	3

* A low estimate for a strong stock, I know, but I have purposely put it at this figure to make a "not too high" balance.

super clearer—off, to find a fair number of full sections, together with some unfinished—a good result really, all things considered. Early in November I saw to the bees (a nice quantity of winter stores was in the brood chamber), and tucked them up cosily for the winter, and trust that they will keep strong, everything at present pointing in that direction, and emerge in the spring a merry, vigorous throng, to give us a good crop of honey, a fuller knowledge of the habits of insect life, and increase our love of Nature—wonderful as it is wide—in all its forms. —W. Bennetts, Gardening and Bee Instructor.

Donations for Royal Show.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

	£	s.	d.
Amount already acknowledged	4	9	0
Mr. F. J. Bell	1	1	0
Mr. T. M. Nelson ...	0	10	0
Mr. F. A. Bean... ...	0	4	0
Mr. C. Gee	0	2	6
	£6	6	6

A Dorset Yarn.

Last season, when the limes were in bloom, I ventured on a statement that honey-dew (so-called) was not wholly due to aphis. In the "Journal of the Royal Horticultural Society" published last May I find in "Notes and Abstracts":—"This is an account of the investigations undertaken to summarise and supplement existing knowledge of the factors which stimulate or retard the secretion of nectar." The general conclusion arrived at was that "the more favourable all conditions for growth, and the more vigorous the plant, the greater is the amount of sugar secreted." This shows that horticulturists know that many units of the vegetable kingdom secrete sugar from young growth and leaves. During the years of most pleasant service in the beautiful gardens of the wealthy I was able to see many of these units that secreted nectar. I still think that the lime is one that secretes a great deal.

The same review has it, a little further down:—"Accumulation and secretion of sugar is most pronounced near the time of the opening of its flower." That is exactly the time when so-called honey-dew is seen shining on the leaves of limes. I have found the lawns beneath lime-trees all sticky with it in hot summers. There are five lime-trees in the school playground opposite this farm. The surface has been tarred and covered with fine shingle to make clean round the school entrances, and when these limes are in flower the shining patches on this hard, dry flooring can be seen, where it has dripped off the leaves in the night. If it was wholly the work of aphis the leaves would all show that they were there, as wherever these are the leaves all curl up. These little creatures all suck their sustenance from the young stems and foliage. All who have looked into the habits of insects know that these little pests do secrete a sweet substance which exudes from two small honey-tubes that are upright on their backs, as we have seen the ants move their antennæ, or feelers, gently up and down these honey-tubes until they give off small nodules of shining substance, which the ants carry away. That bees may get some of this is of course apparent, but on the limes the leaves look too healthy to have millions of these little creatures on them at that time; we who grow fruit know that they are sometimes in countless thousands on plums and apples. Black currants and gooseberries in some seasons have a great many of them, and unless a shower comes and washes the adhesive substance off, the fruit is very sticky to gather.

From the maple-trees of America maple syrup is taken from them as the sap is rising in the season, if the sap is sweet, as the aphis sucks it from the young growth, these small honey-tubes must give off a sweet substance also. This unit of the insect kingdom is very remarkable in its reproduction; it is only at the end of summer that there are both males and females. Their fertile eggs are left on the trees where they were feeding. These hatch out early the following season, but there are only females in the summer, which extrude living young, which in a few days of hot weather are soon adult aphides, and also extrude living perfect young, though very small. One can see how soon a quantity of honey-dew (so-called) could be on some of these plants on which they delight to live. But it is not all the work of insects; the trees themselves give off a lot of this secretion at certain seasons—at least, that is what my

observation teaches me. This possibly may give rise to a lot of criticism, but text-books should give it out that these trees give off at certain seasons this sugary secretion, not to let bee-keepers think the bees are getting impure honey from foreign insects, and not from the flowers. I have frequently seen at August flower shows (where there were classes for honey competition) samples of run honey that had the cloudy appearance of honey-dew, and have always placed it with low-grade exhibits, though there was nothing wrong with the taste of it, only the cloudy appearance spoiled it for prizes.

Now that the fighting is over, many shows that have been in abeyance for the period of the war will be held again this year. Let us hope the classes for honey will be in the schedules. Its value as a food is very high, beside the great help to the fruit-grower that the bees are in the fertilisation of his flowers, by crossing the different varieties that are in themselves sterile with the pollen of other varieties, which, beside making them fruitful, adds to the size and weight of each fruit.

In Root's "A B C and X Y Z of Bee Culture" honey-dew is put down to insects. Though the secretion of nectar from the trees is mentioned in "A Modern Bee Farm," it says it is insects that cause it. The first book on insects that I ever possessed (Kirby and Spence's "Guide to Entomology") also says insects. Gaston Bonnier gives a full description of the secretion of nectar from trees and leaves, as well as aphides. This is quoted at some length in "Langstroth on the Honey Bee." The same book, on page 118, says: "The accumulation of sugar in the tissues may exist, not only in the flower, but in different parts of plants, in the cotyledons, in the leaves, in the stipules, in the tracts, and between the leaves and twigs, it forces itself through the cuticle, or skin, of the plant." This talented American must have been a keen horticulturist, as well as an entomologist, as he gives his teaching so clearly.

Going back to the aphis family, those who have time to watch their remarkable powers of reproduction should watch the vary large one that is to be found on the willows. The great size of this one makes it easy to see the living young that are extruded. We are amazed at the fecundity of the queen-bee, but to watch these in favourable seasons is an object-lesson in natural history. The bees take their toll of honey and pollen early in the spring, so the aphides are not spoiling the blossoms as they are on them in the hot weather of summer. These are mostly on the willows that are cut down for basket work each year, as there is always plenty of young, sappy growth from which they can suck out the juices. As the young rod grows in length, the parent aphis moves on, and at every movement these living young are extruded. These get their little suckers into the young, sweet bark of the willows. They are soon fully grown, crawl on to other branches, and in turn start their large family. I have seen them on very large specimens of willows by the side of streams in a very dry, hot summer, till the whole tree has had its leaves curled at the ends of growth.

The one tree that will convince all sceptics who doubt the statement that this sugary secretion is exuded in great quantities in favourable seasons is the oak. This only blooms once in the year, but bees are to be found on it in June, July, and August, long after the blossom has faded and gone. The bees are gathering the nectar that is being forced through the young bark. The oak differs from many forest trees in that it mostly makes two lots of growth in the year; after a shower in midsummer they burst out into young growth again, which makes them such beautiful trees for isolation in large parks, especially the fine scarlet-leaved varieties. An old bee-keeper always assured me that the most of his honey was gathered from the oaks. He said that as he went to work in the early mornings of summer he could hear the bees in the trees above his head as he walked beneath. These large, healthy leaves showed plainly that there were no aphides there to make the so-called honey-dew, but it was Nature pumping out the nectariferous juices for the bees to gather up, that nothing should be wasted.—J. J. KETTLE.

Notes on "Isle of Wight" Disease.—IV.

THE OPPOSITION TO LEGISLATION.

It is only fair to admit that apiarists who believe in the non-infectious character of "Isle of Wight" disease are justified in protesting against what they consider an unnecessary restricting function—the proposed State supervision of apiaries. On carefully analysing the situation, such opposition, however, can hardly find any ground to stand upon. No one interested in bee culture and its progress, and in the welfare of bee-keepers, would think for a moment of inviting an unnecessary control, especially one that will create any hardship to people dependent on bee-keeping for their living.

In discussing later on the etiology of malignant dysentery, I shall refer again

to this question. Suffice for me, at present, to remark that on the authority of respectable and highly qualified researchers, *microsporidiosis*, or *Nosema disease*, is infectious. Capable American researchers inform us that "Nosema disease is an infectious disease of adult bees. It is the only adult disease which at the present time can be diagnosed by laboratory methods (White, 1918(,"* From the same source we learn that White, in 1914, "has found the parasite *Nosema apis* in samples of bees from a large number of the States of the United States and from Canada. The disease weakens and even kills colonies, and is therefore of interest to bee-keepers. The exact losses from it are not known, but in America they are less than has been attributed to it in some other countries." There is a possibility that the popularity in America of the Italian bee (which is supposed to possess at least partial immunity to malignant dysentery, or Nosema disease) is responsible there for the smaller incidence of this disease. On the other hand *bee paralysis* (which in all probability corresponds to the non-infectious types of "Isle of Wight" disease) is widespread there. On the authority of Dr. E. F. Phillips, we are assured that "there is no evidence that the disease is infectious," also that "the cause of this peculiar trouble is unknown, and no remedy can be recommended."†. It will be, therefore, grossly unfair to make bee paralysis notifiable, and to consider it one of the excuses for demanding State supervision. And as bee paralysis occurs in this country, and is often mistaken for the infectious type or types of "Isle of Wight" disease (because of the marked similarity of symptoms), some apiarists are justified in having their misgivings regarding the possible outcome of Government inspection.

Considering the limitations of your space it is not my intention to discuss any point in detail, unless in reply to helpful criticism, but in view of the prevalent misunderstanding on this important question, it is permissible to treat it again in this short article. In the first place, I trust that I shall not be considered a supporter of a non-restricted and a non-qualified Government supervision. And in the second place, I hope that as I am probably the last of your contributors to be accused of a spirit of partisanship, my general interest in the advancement of bee culture will be appreciated as my sole motive for offering any suggestions on this vital question. In a few words, I do not support other than an educational co-operative supervision, which is concerned only with those definitely established infectious diseases which possess an epidemic character, and which could be safely diagnosed, and not a supervision which is oppressive and destructive and which is devoid of an encouraging compensation.

Clearly, *foul brood* and *Nosema disease* are the only infectious bee diseases in this country that require notification at present. Notification, without helpful inspection and without the isolation of the diseased bees will not be in itself of any aid in fighting bee infections. Both foul brood and Nosema disease have distinct features, and with the aid of the microscope, both diseases could be diagnosed with certainty. No apiarist could possibly diagnose these diseases in their incubating period, and he could not possibly be blamed for it—no more than a physician is to be blamed, under similar circumstances, for not being a prophet. But an observant apiarist and a capable inspector could possibly detect the early signs of disease, and by microscopic investigation could affirm or exclude the presence of an infection. In the latter case, isolation of the infected colony is justifiable, and if the apiarist has no accommodation for this purpose, the sick colony should be removed to a Government *Bee Hospital* for isolation and treatment, and the owner adequately compensated for his loss. Without this compensation, and without the educational function to be expected from an efficient State supervision, I do not believe that the cause of bee-keeping will ever receive any popularity from the non-sympathetic interference by the State.

The office of a "State apiary inspector," therefore, is an important and responsible one. Only those possessing the best practical experience, with a knowledge of microscopy should be entitled to it. A local qualified expert for each district is always to be preferred, as co-operation between him and the local bee-keepers can generally be assured, especially if he should happen to be a popular and a tactful man, and this should always be an additional qualification for selection.

Bee diseases of undetermined character, even if one or more of them should be suspected of being infectious (although the causative organism is not known), cannot of course be either notified or supervised, because they are, at our present state of knowledge, more or less indistinguishable, and their character of infectivity not definitely determined. But whilst this calls

* "The Diagnosis of Bee Diseases by Laboratory Methods," by Arthur H. McCray and G. F. White (Bulletin No. 671, United States Department of Agriculture).

† "The Treatment of Bee Diseases," by E. F. Phillips, Ph.D. (Farmers' Bulletin 442).

for further research, it should *not* be considered an excuse for prejudicing the notification of *Nosema disease* or of both classes of *foul brood*—all of which are definite infectious diseases of a virulent character and of a pandemic type. It is a pity that whilst the Government does not hesitate to spend thousands of pounds on trivial investigations, the responsible officials do not care to give even much smaller grants to the leading bee-keepers' Associations for the purpose of research and the general encouragement of bee culture.

It is argued that those who keep bees on a large scale, or who depend on bee-keeping for their living, are opposed to legislation. I know also that there are conscientious leading apiarists, like Mr. Herbert Watts, who sincerely ask for legislation. Those who oppose it are either under a misunderstanding, or indifferent to the interests of others. The first may be excused, but the latter cannot be encouraged, however much they wish to talk about their surplus of honey, thanks to the richness of their districts in flora. They can afford to lose some colonies, or even many colonies, so long as they get from the remaining ones a respectable surplus, and so long as they can restock their empty hives from the colonies which survive the winter. They do not appreciate their great loss in bees, nor do they worry about the spread of infection through their selfish apathy, which results in multiple losses to many smallholders whose few hives, with their poultry or other live stock, mean a good deal to their limited income. Only those progressive apiarists, whether great or small, who are opposed to legislation through fear of misjustice, and not through mere selfishness, deserve our respect. Their co-operation, and not their opposition, is needed. For this reason I repeat that, in the highest interests of bee-keeping in this country, a responsible conference of *all* representative British apiarists, irrespective of their personal views, should be immediately convened, in order to exchange views on the important question of legislation, and in order to establish between them the much-needed unity.*

A. Z. Abushady.

* The previous article appeared in the B.B.J. for January 23.

Three thousand tons of honey are stored in Australia awaiting export. Prospects of shipment are brighter.—From the *Globe*.

Questions, etc., for Bee-keepers for Self-Examination.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

229. How should a smoker be charged, fired, and used?

230. What are wild bees, aphis, atavism, untested queens, unripe honey, septum, velum, and eke?

231. How is foundation made?

232. State what is recommended for the alleviation of the effects of bee-stings.

233. Make a calendar showing the dates of the several periods of honey-flow in your locality.

234. What is likely to happen if a swarm is hived on empty combs?

235. Explain clearly why section honey is, as a rule, more delicious than run honey.

236. State what is claimed in favour of a brood chamber divided horizontally.

237. What considerations should be put to a beginner to help him in deciding whether to work his apiary for comb honey or extracted honey?

238. Describe the wings of a bee, assisting the description with a sketch.

239. Elucidate the statement that new colonies should, as a rule, be formed only during periods of honey flow.

240. Show that success in bee-keeping depends mainly on the careful consideration and utilisation of the instincts and habits of the bees.

J. L. B.

"Isle of Wight" Disease.

I have been very interested in the article on the above subject, by Mr. Watts, in B.J., for December 26.

To my mind it is by far the best contribution that has appeared for a long time. It is a pity that more readers, with long, practical experience, do not enlighten the pages of the Journal with their views. Of late, I am afraid, some of the articles sent in by novices have been very misleading, and it is time the old hands had a turn.

I fully endorse all that Mr. Watts has to say about the disease-resisting qualities of pure Italians, but I would emphasise his remark on the necessity of introducing Italian queens into stocks early in the season, if good results are to follow. After mid-July I am afraid it is useless, especially if the colony should be in any way tainted with disease, and it is hardly fair to waste valuable queens on suspected stocks after this date.

I quite agree with him, also, when he

says that stocks showing signs of the disease in autumn are best smothered, as I believe the disease is spread more at this season than any other.

My experience is that Italian bees are not really immune, it would be useless to argue that they are, but given a fair chance they put up such a very good fight against the disease that I believe it is the only hope we have at present of combating this plague.

To be consistent, I must say that I greatly favour the Black bee, but like Mr. Watts I cannot keep them, because they go under so easily when attacked with "Isle of Wight" disease. My views on spraying may be interesting to some. Really, I think the majority of those that spray are under a delusion, especially those that imagine that any one of the disinfectants now used is a cure. The idea that bees clean themselves with their tongues when half drowned in disinfectant is, in most cases, a farce. What I think happens is that in the majority of cases the bees allow themselves to dry, and all that has happened is that they have been given a disinfecting wash, which probably has removed any spores that may have been on the bodies of the healthy bees, and the weaker (diseased) ones have gone to the wall, the result being a smaller, but cleaner, lot of bees left, which will raise up further batches of brood to make up for losses. Italian bees are excellent for this purpose, as they require very little stimulation to induce them to breed.

It should, however, be clearly understood that Italian bees cannot be kept profitably on the same system of management as for Blacks. They require a much larger brood nest, two brood chambers containing 20 standard frames is none too much for them, and in addition to these abundance of surplus room above—hence the skyscraper hive.

I should also like to congratulate Dr. Abushâdy on his lastest article in the same JOURNAL—I think it is by far the best he has given us. I am afraid I cannot agree with him in many of his former suggestions, but I do think his idea of a "Research Committee," to establish a Bee Hospital to experiment with sick bees is excellent, providing it could be under the supervision of our best practical and scientific men, such as he recommends.

This would relieve us of the very objectionable feature at the present time, of everybody attempting to cure the disease, to the detriment of his neighbour's stocks, and in time it could be proved from the reports issued what disinfectants or drugs were useful, and which were not worth keeping.

I shall be very pleased to support any such scheme that can be formulated, and should like to see the Council of the British Bee-Keepers' Association rise to the occasion.

In conclusion, I should like to wish the BEE JOURNAL, its readers, old friends and new, a Happy and Prosperous New Year. —J. PRICE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Wanted, a Meeting of Bee-Keepers.

[9841] Referring to my letter (9833) which appeared in your issue of January 16, asking for bee-keepers to meet me in London on February 20, I am sorry to say that up to the present (January 23) I have only received communications from four others who are willing to co-operate in the scheme. I trust that I shall receive more replies, as otherwise our efforts will hardly be a "united" action.

One gentleman has suggested that I call a meeting in the Midlands, and as this is a sound suggestion, I will ask those who can do so to meet me in Birmingham on Monday, February 17, and the result of this meeting can then be communicated to that to be held in London three days later. Will those willing to come please address me, and I will fix a meeting-place, etc.—H. B. PEIRCE, Rosemount, Tudor Hill, Sutton Coldfield.

Wanted, a Live Association for Berks.

[9842] A week or two ago there was in your correspondence columns a complaint from a bee-keeper about the slackness of his county association, that complaint seemed to be adequately answered by his county association secretary. I can only trust that the complaint I am about to make with regard to the state of affairs in Berks, may be as satisfactorily met.

I have kept bees for a good many years in this neighbourhood, and have never

heard of any association or society in connection with bee-keeping hereabouts. Some time ago I made inquiries at the office of the B.B.J. as to whether there was a Berks Association in existence, and was given the name and address of the secretary. I wrote to him some six weeks ago asking for particulars of the Association, and suggesting the desirability of starting a subsidiary society or section for this locality. Though I enclosed a stamped envelope for reply, I have up to this date received no answer of any description.

Abingdon is a town of some 7,000 inhabitants, and is the centre of a good agricultural neighbourhood; and, what is more to the point in this connection, it is an excellent honey district, I have several times taken over a 100 lbs. surplus per hive, and that without sky-scraper methods. There are to my knowledge several keen bee-keepers who would greatly welcome an occasional good lecture, and the mutual help to be derived from a live association and a local section thereof, while there are great possibilities of vastly increasing the numbers of those who keep bees. The other day I read with considerable envy the report of an association (I believe it was the Notts), which had organised active independent sections in every small town and district in the county. What can be done in one county can surely be done in another, and I for one should be only too pleased to do what I could towards obtaining a similar state of affairs in Berks. I should not, however, care to be a party to poaching on the preserves of an existent association, by starting another association in the county, or anything of that sort, and should be quite satisfied if this letter resulted in thoroughly waking up the Berks B.K.A. I should be pleased to hear from any other bee-keepers in the county interested in the matter.—C. Rippon, Springfield House, Abingdon, Berks.

Procedure of Bees.

[9843] To-day, January 16, 1919, I had a look round my beehives (weather cold and showery), when I noticed on the alighting board of one hive half-a-dozen dead bees, among them being a drone bee, to all appearance also dead. I picked it up and held it in my hand whilst making a tour of the other hives, when I again looked at it and found it moving, showing signs of life again. I took it to the house, held it in front of the fire, when it became very active, and flew about two feet and dropped. The only deformity I noticed was the stiffness of the hind legs. This particular stock was raised (seven frames) from brood with queen-cells, from another stock, which swarmed on July 27, 1918. The queen that headed it was laying well, and the stock in very good condition when covered up for winter, and is at the present time more pronounced in its sound of activity of the bees inside than any of the other hives, more so than I every remembered a stock at this time of the year. I have not fed this stock since the latter end of September, 1918, when it was fed with a few pounds of unripe honey, medicated with Flavine.

I have destroyed two stocks, as in my opinion they showed signs of "Isle of Wight" disease on October 2, 1918. The first week in November I supplied each with a cake of candy medicated with Yadil. But finding a great percentage of the bees could not fly, I decided to destroy both, and in the second week in December I took this action. After shaking the bees off the combs I found that two contained brood in all stages, and some cells contained from two to five eggs each. Both stocks were noted for these proceedings.

Your comment on the above would be greatly appreciated, also the comments of your readers.—J. W.

Healthy Neglected Bees

[9844] I am returning from Wales, and while there visited two old bee-keeping acquaintances. No. 1 (a gardener) had lost every hive—six, I think—from disease and robbing, all housed in standard hives, and all provided, apparently, with a full supply of food on covering up in the autumn.

No. 2, two miles away (a gamekeeper), had lost two hives out of four of disease, in standard hives. The two lots remaining were in home-made hives, very rough-looking, and *entirely* without any ventilation but the entrance-hole; no frames, and the comb made *on a bar of wood nailed across the box*! It was a pouring wet day, though mild, and the bees were lively, flying in and out. I could see no pollen or anything on the returning ones, no flowers out but gorse.

The bees were very small brown ones—very savage, the keeper told me. One made for him and tried to sting him while we were near. No doubt the smell of fur on his coat annoyed them. Can you account for these two strong, healthy stocks under such circumstances? Little or no care taken with them, and no covering but an old sack over the top of the "hive"—by courtesy so-called! It is all very puzzling to a beginner, and it certainly looks as if the less care is taken the healthier the bees are; and why they should fly on a pouring wet day in January is more puzzling still.—Marie Corbett.

Making Artificial Swarm.

[9083] *Re* Mr. Puck's article in BEE JOURNAL of January 9, when the artificial swarm is made up, say, of four or five combs from the parent stock, does he fill up the gaps in brood box of the artificial swarm which is on the old stand, with combs or foundation to make up the complement of 10 frames or nine as the case may be. I can follow the operation in the parent hive, but not quite the operation of making an artificial swarm. Perhaps you would kindly insert this for Mr. Puck's perusal, as I am anxious to try his scheme.—H. K. SPRINGETT.

REPLY.—In reply to Mr. H. K. Springett's inquiry, the artificial swarm can be dealt with in different ways, either for the production of honey or for the increase of stocks. Taking honey production first, I would either allow the bees to re-queen themselves, giving them a frame or two of foundation in addition to the four or five brood-frames, if there are more than sufficient bees to cover these, and later on strengthening them with capped brood from other hives to make up the complement of ten brood-frames before supering, or, *by preference*, if queen cells on hand, giving the lot a ripe queen cell two days after making up and then building up as above. Care must be taken that they have unsealed brood when young queen goes out on her wedding trip, else bees might leave the hive with her.

If moderate increase is intended, and the four or five frames are well covered by bees, add one frame with foundation; slow feed for eight days if honey flow scant, then divide in two lots, giving two queen cells to each, and when queens laying, add sealed brood from other hives to build up nuclei into strong stocks. I prefer giving two cells, in case one should fail.

Another good plan is to make use of the artificial swarm for queen rearing from any other colony you are desirous to breed from. Three days previous to making artificial swarm, insert an empty comb into the hive you want to breed queens from for queen to fill with eggs, and, on making artificial swarm, put this comb, cut down two-thirds into the centre of hive to be occupied by artificial swarm, flanking same with two frames of starters or foundation and fill up with one frame of sealed brood on either side. In about eight days the bees will have formed a good many queen cells; as many as required may then be inserted in nuclei and two left for the lot to re-queen, or if more cells are wanted, they can be set going again on a fresh lot of eggs.—O. PUCK, Chingford.

A. GREENHORN (Somerset).—*Artificial swarming.*—You may leave a comb containing a queen cell on the old stand instead of the queen if you like, but it is better to follow the instructions given in the "Guide Book."

Italians are far better than Dutch bees; the latter are prone to excessive swarming.

C. MURFIN (Hunts).—*Removing bees from hollow tree.*—The method of doing this will depend on circumstances. Can you not adapt that given on page 422 of our issue for December 26 last?

E. J. JACOB (Handsworth).—*Brood in winter.*—The mild weather would cause breeding.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

WANTED, Geared Extractor and Ripener; Cowan cog gearing preferred; fair price given for serviceable machine.—Price and full particulars, HUNT, Railway Cottages, Laindon, Essex. m.33

FOR SALE, two 28-lb. tins of very fine Clover Honey, £6 10s., carriage forward. Tins and cases returnable.—"Suffolk," B.B.J. Office, 23 Bedford Street, Strand, W.C.2. m.34

ONE 28-lb. tin Extracted Honey, good, 2s. 9d. per lb., f.o.r.; tin and crate returnable; also about 20 lbs. Beeswax.—J. A. SEMMONS, Leiston, Suffolk. m.35

PURE EXTRACTED HONEY.—Containers, ¼ and ½ lbs., 8s. 6d. and 16s. 6d. per dozen, carriage forward; sample quarter, 1s., post free.—WILLIAM RAYNER, Bee Garden, Iver, Bucks. m.36

WANTED, several Stocks of Bees, with young queens, skeps, or on frames without hives.—CLAY, Kingsleigh, Wellington, Salop. m.37

FLOWER HONEY.—Five dozen Sections, 3 dozen Screw-top Bottles, 5 dozen Jars. Best offers accepted.—J. R. WATSON, 11, Bothwell Street, Glasgow. m.38

FOR SALE, Honey Extractor, in good condition; Ripener; Wax Extractor; number of surplus Hives.—Apply, SANDYS, 48, Fern Grove, Sefton Park Road, Liverpool. m.39

WANTED, Swarms, in May.—Box No. 3, B.B.J. Office, Bedford Street, Strand, London, W.C.2. m.41

COMB HONEY.—72 Sections for Sale (one lot), perfectly packed; also several 28-lb. tins delicious Run Honey.—WYATT, Bishopswood, Chard. m.30

Packing Honey.

Packing honey for travelling is often a source of worry to those having it to dispose of, or to send to show. Should it leak out of the packages, it is not only a loss, but has a most exasperating knack of spreading itself more or less over any other goods that may be travelling in its company. For small quantities of either bottles or sections, there is nothing to beat the special boxes made by the appliance dealers. For larger quantities our own practice has been to use Tate's cube sugar boxes, or others similar. If bottles are being packed, put a good layer of straw in the bottom of the box, two or three inches thick, and well pressed down. On this stand a layer of bottles, with either a little straw or a piece of corrugated paper between each bottle, so that none of them touch each other. Do not put them close to the sides of the box: leave a couple of inches space, into which straw should be firmly pressed. Then put in another layer of straw as before, on which another tier of bottles is placed; and so on until the box is filled. Allow room on the top for a thick layer of straw, which should be firmly pressed down when the lid of the box is screwed on.

Sections should be first well cleaned from propolis and bits of wax, then tied in parcels of half a dozen each, wrapped in brown paper or newspaper. A small piece of thin wood, the size of the face of the section—usually 4¼ in. by 4¼ in.—should be placed at each end of the parcels, and the whole then tied firmly endways with stout string. These parcels may then be packed in a box as advised for bottles. Allow a little thicker bed of straw, also more at the sides. It is not necessary to put any packing between the parcels, but they would be safer with a sheet of corrugated paper between them. There is no better packing material than straw, and it must be packed in as tightly as possible, so that the bottles, or sections, cannot move. Have a thicker layer of straw at the bottom of the box than at the top. Label plainly, "Honey, with care," "This side up." It is also advisable to cord the boxes. They will be more secure, and the cord will serve for lifting them.

Fuller instruction on this subject will be found in "Producing, Preparing and Judging Bee Produce," post free, 2s. 3d.

Donations for Royal Show.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

	£	s.	d.
Amount already acknowledged	6	6	6
Mr. C. D. Burnet ...	0	10	6
Mr. J. C. Dyas	0	10	6
Miss G. L. Weaver ...	0	5	0
Mr. A. Fry	0	5	0
	£7	17	6

A Dorset Yarn.

Bees have only been out once for several days, frosty nights have not made it congenial for them; the cold north winds bring the moisture in one's eyes while at work among the fruit trees, no bee could live if it ventured out, they all wisely keep in the winter clusters.

A visitor from Parkstone came to the farm. We had a look through the small piece of glass in the centre above the bars, the bees all looked well, and were moving about between the strips of wood. One likes to see that they are stirring, it shows they are moving for food over the tops of bars, instead of having to go to the bottom of combs, where it must be very cold for them.

The County of Dorset has sent to us the certificate of right for sugar to keep them going. After this warm autumn and winter they must have drawn on stores rather largely. The County Council also writes that Mr. W. Herrod-Hempsall will be lecturing in the county: all will give a stimulus to bee-keeping.

One of my neighbours is preparing for the big demand for nuclei that is sure to come this season. He believes in having all ready in the dull time for the busy time that will come, when so much else will have to be done in addition to the bees. He is like the wise virgins we read of in the Old Book, they were commended; I think Mr. Butson is also wise in preparing for the demands for bees this season. He did wonderfully well last year with honey, he anticipates doubling last year's income by selling young stocks;

he has Italians. Many write to the farm for Italians, but no one will part with them at this season, the would-be bee-keepers must wait till the young stocks are ready in early summer—there will be plenty in the column of advertisements in B.B.J.; we cannot part with ours, because, as we extend the fruit, we must have the bees near them. In one field there are some trees of Lane's Prince Albert apple that have never yet given good crops, though those close to the stocks of bees are always fruitful; it proves that the bees will not go far for food if there is plenty close to their hives. It is the old Arab quotation over again, "If the mountain won't go to Mahomet, then Mahomet must go to the mountain," we must move the bees on to the fields where the lines of fruit are grown.

A gentleman in the Fen country has sent to me to come and visit him in the holiday time this summer, and spend a few days at his home; he writes of the great numbers of stocks of bees that Messrs. Chivers—the great jam makers, of Cambridge—have on their fruit farms. Wherever the fields of fruit are situated, there they take the stocks of bees. They have realised that the sterile varieties of apples, pears, and plums can all be made fertile by the aid of thousands of bees. It would be no use for the jam makers to plant fields of fruit trees and find "nothing but leaves" in the fruiting season, so they are wise in their generation in Cambridgeshire.

This year has been a phenomenal one for the sale of fruit trees, thousands are cleared off this season; last year's scarcity of fruit has shown those who have gardens that to grow fruit for themselves is preferable to tennis or croquet. They can go to the public parks for pleasure; many are finding pleasure in production. A legal gentleman told me during the election that he was running an allotment this season; I have not met a doctor who has found time to run one, they seem to be always on the move among the sick. Now the white bread has come again there will be more still for them to do.

Another bee-keeper, who is also a great lover of Nature, writes of the wonderful provisions for fertilisation among the flowers. We can all see that when nectar is abundant in the blossoms, bees will be sure to fertilise the flowers as they extract the honey, but where there is no nectar to attract the bees, many are formed in the shape of insects, the males will be attracted to these blossoms as having the form of themselves, they expect to find the female, their disappointment must be great, but their only flying on to the flower expectantly has moved the pollen in the right direction, and the fertilisation is complete. Were it not for some agency to carry this fertilising substance on to the lip the plants would be sterile. We find it in many of our native orchids, as the orphrys have no nectar, but the orchis has, yet all seed, and reproduce themselves.

The insect kingdom has so much to attract the attention of he who "walks with Nature." Take that unit of the beetle family called the glow-worm. The males have wings, the female has not, but she is provided with a lamp that will attract the males, so that the race should be carried on (these are a very beneficial race of insects to the horticulturist, as they eat young snails), but floral mimicry to attract insects is not so common, yet it is with us, and the pleasure it gives to the Nature lover is great. Some readers will probably think that "little things please little minds," it is the simple things in life that count; those tillers of the soil who have spent a lifetime with Nature have seen a few things that are of interest. It makes our lives the fuller, our knowledge of Nature's secrets, which are overwhelming in wonder; yet some, in the hustle and bustle of life, have not time to notice any of them. It is a pleasure to read letters of bee-keepers who have noticed these peculiarities of floral mimicry.—J. J. Kettle.

Notes on "Isle of Wight" Disease.—V.

THE SANITATION OF THE APIARY.

With the introduction of satisfactory legislation that will ensure, on the one hand, appreciable protection to the conscientious apiarist from the possible ignorance or carelessness of his colleague, in so far as infectious bee diseases are concerned, and which will guarantee, on the other hand, all justified compensations, to the unfortunate owners of dysenteric bees (in a way that will also encourage the further development of apiculture, instead of injuring its cause, which is part of the cause of national food production), and with more productive research on selective breeding, two *essential* and powerful weapons for fighting malignant dysentery will then be guaranteed.

No further arguments are necessary for demonstrating the incalculable additional harm that would result to British apiarists, great or small, professional or amateurs, and to the object of popularising bee-keeping, should bee-keepers in this country continue to be denied every reasonable Government protection, but remain exposed to the invasion of "Isle

of Wight " disease from multiple directions. Again, it is unnecessary to emphasise the obvious fact that the best organised State supervision will never by itself stamp out this plague, if we do not trouble to apply to our breeding efforts the most up-to-date principles of *Galtonian Eugenics* (a practical science which has been rightly defined as: " Treating of the physical well-being of a race, and of the influences which tend towards improvement, or degeneration "). We cannot much hope for the good health of our bees if we continue to champion the breeding of the unfit, instead of a logical purposive selection. It is unwise to depend on natural selection, which entails much sacrifice. Far wiser, and more economical is the control of the birth-rate by human selection. *Genetics*, the cornerstone of modern eugenics, has done much service to the scientific development of horticulture and to the breeding of live stock other than bees. There is no reason why the latter should not benefit from the correct application of its principles, should we care to so apply them.

Can we safely say, then, that we have completed preventive measures and that we need not further worry? Of course not. We have yet to consider, amongst other important factors, *the home of the bee and its surroundings.*

During the active season, the working bee spends nearly half of her life within the hive; whilst during the cold season—the most favourable time for the incidence of " Isle of Wight " disease—she spends nearly the whole of her life indoors. Is it illogical, then, to attach much importance to the influence of her home and its environment on her general health?

The effect of cold and dampness in lowering the health of many species of animals is common knowledge. It is also well recognised amongst other principles of sanitation, by all modern apiarists, yet very few of them give this knowledge any practical shape. The selection of a well-drained, and a dry site for the apiary, the regular provision of a clean water supply, the exclusion of heaps of manure and other dirt, which might be visited by the bees at certain times, all are desirable precautions which do *not* attract the attention of other than a small minority.

Considering the hygiene of the hive itself, few apiarist's trouble, specially in winter, to clean its exterior after the cleansing flights of the bees, and the hive is left spotted with excrement which may, or may not be infectious.

The majority of hives in existence do not give adequate protection to the bees in winter, nor do they possess one important hygienic feature which is a real *necessity*, namely facilities for the regular removal of the corpses of dead bees and other dirt. The accumulation of an appreciable number of such corpses on the floorboard cannot be considered tending to maintain a good standard of pure air inside the hive. The removal of as many of them as possible through the entrance, by means of a hooked wire or the like, is the best advice that is given at present in all manuals of bee-keeping that I know of. Yet it is not quite practical, since it neither fully performs its task, nor does it avoid disturbing the clustering bees. Moreover, by having a fixed floorboard, all dirt accumulating at the bottom of the hive, cannot be removed, nor can the floorboard be disinfected when desired, except by first lifting the rest of the hive—a procedure which is most undesirable in practice. However carefully done it involves the greatest disturbance to the bees. It is not likely to re-appeal to those who have experienced its failure. Fig. 1 is a photographic illustration by Mr. Walter Keyte, of a hygienic hive stand from an experimental model constructed for me by Mr. W. J. Owers. It shows two floorboards, the uppermost, A, consists of a perforated zinc frame, and is separated from the bottom one, B (which, for the purpose of greater insulation of the colony from dampness and cold, is made double-walled, with dead air space in between), by a space half-inch in depth. Both floorboards are detachable and slide easily in the frame of the stand. Whenever it is desired to remove dead bees and dirt from the floor of the hive, the frame A is drawn out almost completely. All dead bees will fall on B, and should any live bees descend, they will not be able to disturb the operator, and will find sufficient room in the space between A and B to protect them against accidents. Meanwhile, A could be cleaned, dressed with

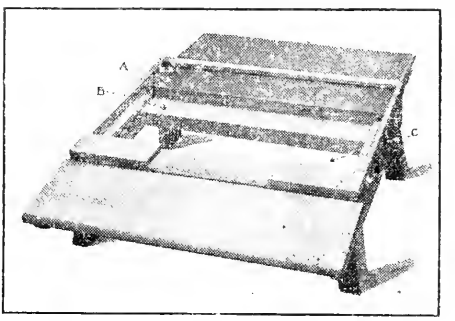


FIG. 1.
HYGIENIC HIVE STAND.

a solution of a disinfectant and returned. The bottom floorboard, B, could then be drawn out, thus permitting all dirt to fall to the ground, or better still on a sheet of paper placed beneath the hive, and allowing any live bees to make their way back to their combs through the entrance. This bottom board in its turn could be washed with a disinfectant solution and then replaced in position. The whole procedure will not take more than a few minutes to do, and is conveniently performed. Dead bees and any dirt that is removed are best suited for cremation, and the ground surrounding the hive may be profitably dressed with lime.

In an independent article I shall further deal with the hygiene of the hive. I need here only draw attention to the fact that such a sanitary device as referred to is by no means expensive, and excellently serves in addition the purpose of ample ventilation during the hottest part of the season, when it is desired to discourage swarming. In this case, the bottom board, B, is drawn out to any desired extent or entirely removed.

To put it briefly, the home of the bee and its surroundings cannot fail to exert an important predisposing influence on the health or sickness of the bee. The exclusion of dampness and dirt in all forms, the admission of sunshine and free air without ignoring protection from winds and storms, the best possible insulation of the colony from the effects of bad atmospheric conditions, and the sanitation of the hive and its surroundings must not escape our best attention. It is a regrettable fact, however, that hardly any research on the better housing of bees has been made recently, and our present methods, progressive as they are, do not correspond to the more progressive spirit of the century. At least the bitter experience with "Isle of Wight" disease should have taught us this.*

A. Z. Abushady.

* The previous article appeared in the B.B.J. for January 30.

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

241. In what circumstances are drones prevented from having food?

242. Explain clearly why bees should not be disturbed in winter.

243. Why should a second rack of sections not be put in a hive before the first is at least half filled?

244. Describe the Claustral hive, and state the advantages claimed from the use of it.

245. How may foundation which has become brittle and darkened in colour be improved for use?

246. What fixes the limit to the number of artificial swarms which may without loss be taken from a colony?

247. Give a list of the races of bees used by bee-keepers, and state briefly the characteristics of each.

248. How should a movable-frame hive containing bees be made secure for removal by rail?

249. Draw a sketch of a queen's sting, and state the differences between this sting and that of a worker bee.

250. What are the diseases to which, so far as at present known, the adult bee is liable?

251. What are Malpighian tubes?

252. Make notes for a 15-minute lecture on "The Bee-keeper who attributes his Want of Success to Ill Luck."

J. L. B.

The Doings of Deborah.

V.—Snow.

"My dear Deborah! Whatever has possessed you? Deep, cold snow, just beginning to melt, and you seem as if you wanted to show off all your acrobatic tricks! Wheeling round my head in ever-widening circles, and then plunging headlong into the snow, where you roll and burrow, and then, alas! lie still. Here, crawl on to my finger and get a little warmth from it. What has induced you to rouse up and leave the hive?"

"What has induced *you* to come here disturbing us? We were all snug and warm and sound asleep, and suddenly the most horrible scraping noise began."

"But I was only scraping the snow off the roof and the alighting board. It had drifted on to the front of the hive, and you might have been smothered."

"A likely story! What do you suppose we did before man began to make use of us? It snowed then—yes, and far more than it does now, too! Couldn't you see how the heat from the hive had prevented the snow from coming quite up to the entrance?"

"Yes, I did notice that, but the Bee Journal said last week, 'Nothing is so penetrating as melting snow,' and it might have come through the roof and wet the quilts."

"Well, there was no harm in getting it off the roof, but you need not have waked us all up in the process. Why could you not do it gently? Just showing off, I suppose, to passers-by, how brave you were to have come out early in such deep snow!"

"Well, you're warm now, Deborah; do go back into the hive. Oh, goodness, ever so many more have come out, and they are still coming! Oh, those tiny dark patches on the white snow! One, two, three, four, five, six! Don't be cross, Deb, but do just tell me what I can do to stop them. Shall I shut the doors?"

"Yes, if you want to smother us, or if you are prepared to wait until the sun goes in, and then open them again."

"It's too cold to wait much longer, but if I don't do something this stock will be ruined, and it is one of my best. *Do* help, please."

"I, personally, have never seen snow before, and I may add that I don't care if I never see it again! Nasty, cold, dazzling stuff! But you may have heard that we bees have an hereditary memory, and this tells me that when my ancestors lived with a sensible bee-keeper he used to put a brick in front of the entrance to keep the dazzle out. You have thoroughly roused us now, so it may not answer, but you had better try."

"Oh, I will, I will. Thank you! And next time it snows you shall never know I'm there when I come to brush the snow off the roof, if you will only go in now and take the others with you."

DEBORAH'S HOSTESS.

Glasgow and District Bee-keepers' Association.

The first of a series of lectures arranged for members of the above Association was given by the President, Mr. R. Whyte, on Friday last, at the Kent Road Board School.

The attendance was not so large as expected, owing, presumably, to the regrettable disorder in the city during the day.

The subject of the lecture was "Methods of Increase," this at the present time being a very important matter, owing to the great scarcity of bees all over the country.

Various methods were very lucidly described and illustrated by means of apparatus used by the lecturer in his practical work.

After the lecture several questions were asked by members and answered by Mr. Whyte.

Mr. Alec Steven, L.R.A.M., on behalf of the members present, thanked Mr. Whyte for his very interesting lecture, and in the course of his remarks pointed out the great food value of honey.

The secretary, Mr. Peter Bebbington, 65, Robertson Street, will be pleased to hear from anyone interested in bee-keeping and desirous of attending the further lectures to be given.

Early Drones?

[9845] I thought it might interest the readers of the B.B.J. to know that I was having a look around my apiary to-day (Sunday, January 12) to see if all was well, when I was surprised to find about half a dozen drones outside one of the hives, dead, being brought out by the workers during the morning, as it was very mild. The sun shone lovely, and the bees had a good flight. I have kept bees here for about ten years, and I have never known such a thing as that before. You will see that they are not old ones and that they are quite fresh. I think that we have had such a mild winter that the bees have been breeding very early, and that is the reason why they have reared drones so soon. I may add that the "Isle of Wight" disease seems to be losing its hold in this district, but we have suffered very badly with it here. It has wiped out all the old bee-keepers of their skeps, etc., and I find that most of them are reluctant to start again, as they say, "It is them patent hives that has brought about the disease." And I may say they are well anchored in that port, and no one will convince them different. My opinion is that "Isle of Wight" disease has no respect for skep, butter-box or bar-frame hives. It is not the hives, etc., that are diseased, but the bees.

It may interest your readers to know that I have had some combs on which bees died from "Isle of Wight" disease in another hive for four years, and the stock is quite healthy now and has done well, so I think that shows the combs are not diseased, and they were not disinfected either, and there was some honey in them as well. There is one way in which I can tell if bees have got the "Isle of Wight" disease before they start to crawl, and that is by their voice. I notice that they are hoarse, like a person gets when he has got a violent cold. Very soon after you hear that you will find they will start to crawl about. Perhaps some of your readers have noted the same respecting their voice.

I have tried all sorts of different things to try and cure the disease, but have not found one yet, in the way of drugs. I hold a stock under my care that had it very bad. They had four boxes of shallow frames on them, and ten frames of comb in the brood chamber, when they were attacked by it, and in about a month they were reduced to eight brood combs, so you can tell that they did have it. I

decided to try a young Italian queen as a cure, and I am pleased to say that up to now they are quite all right and are very strong, so that is my recommendation for the disease in summer, but I am lost about the winter if it should happen to break out. The plan that I am going to work on is to re-queen every year. Wishing you and the B.B.J. every success this new year.—E. Boobier, Swansea, South Wales.

[The drones were quite fresh. We suspect all is not well with the stock, and should say it is queenless, or the queen has not mated or is a drone breeder.—Eds.]

Two-Years-Old Queens and "Isle of Wight" Disease.

[9846] I was much interested in the article by Mr. Puck on the above subject, but really cannot agree with the ideas expressed by him, as though advocating the adoption of Nature's ways, he is in practice running in direct opposition to those ways.

The keeping of a queen for more than one season is contrary to Nature's methods, and is largely responsible for the present epidemic of "Isle of Wight" disease.

To understand the present state of affairs, it is necessary to go back many years in bee-keeping, when bees were kept in a natural state and were not "farmed."

In the time of the old skep the "Isle of Wight" disease was practically unknown, and it was only some time after the introduction of the bar-frame hive that it became prevalent.

The reason for this appears fairly obvious, as with the old skep the bees could not be interfered with, and worked out their own salvation, swarming each season, and therefore eliminating the old queen. As it was the practice to sulphur the heaviest skep, which in most all cases would be produced by the first swarm of the season, and therefore headed by the old queen, the old queen would be killed every season, and the only skeps kept for the coming year would have young queens. Nature's way, therefore, appears to be the re-queening of the hive every honey flow, and this way should be followed if we wish to keep our strains healthy and vigorous.

With the introduction of the bar frame hive, bee-keepers were able to control the working of the hive, and strove to prevent swarming, in order to increase the yield of honey. The old queens were therefore not eliminated, and when young queens were produced they were the progeny of old parents. This has gone on for so many generations, especially in the case of the British Blacks, that it is not surprising that these strains are not able to resist disease.

The only varieties which are disease resistent are those which have been kept in a more or less natural method, such as Italians, or those very prone to swarming, such as the Dutch bee. These Dutch bees will not keep an old queen, except under exceptional circumstances, but will supersede her in the autumn, if left to themselves. In those cases of Dutch bees affected by "Isle of Wight" disease, it can usually be traced to the keeping of the old queens by artificial methods. I consider this question of young queens so important, that I am re-queening every autumn by young queens bred from young queens for several generations, and will under no circumstances keep an old queen for direct breeding purposes.

As those queens heading the working stocks are *not* used for breeding purposes, but only for the production of bees for the honey flow, no harm can result from working them to the full extent of their laying capacity, and as the stock is re-queened at the end of the honey flow the bees produced for wintering will be the progeny of young, vigorous parents, and will be far more numerous than would be the case if the old queen were retained.—A. M. Sturges.

Chapman Honey Plant.

[9847] I had seen Dr. Miller's note in "Gleanings," and regretted that his experience with it had led him to so unfavourable a conclusion.

From my own observation I have not noticed any narcotic effect on the bees.

My own stocks are hybrids of Italian and Dutch, and certainly they were quite active on the *Echinops'* heads.

Last season was exceptionally wet, cold and dull, and any lethargic condition should, I think, be ascribed to weather conditions rather than to any toxic or even merely soporific effects of the plant.

Perhaps others who have grown *Echinops* would be willing to give their experience in this respect.—A. F. H.

Observations of a Novice.

[9848] As a bee-keeper having only one season's experience, it may be presumption on my part to offer any suggestions for improving the conditions under which our precious bees are kept and manipulated. (1) Regarding the use of smoke for subduing, especially when the apiarist makes a practice of opening hives and examining the combs every week during the season, it seems to me

much harm may result to the constitution and vitality of the inmates from the semi-stupefying operation, particularly when the manipulator is not inclined to be moderate with the smoker; from my own observation the carbolic cloth is far and away the best agent to employ for the purpose of subjugation, being not only harmless to the bees but at times highly beneficial, owing to the need for a wholesome disinfectant. Medical students tell us that the common fowl, after an injection of anthrax germs, if kept under normal conditions, will go on as if nothing had happened, but if its feet be placed in water the patient soon becomes ill and succumbs. I am inclined to think that with our bees if they are drenched in smoke, which they so much dislike, and should happen to be confined afterwards to the hive through stress of weather, it is highly probable that some of them develop unnatural sickness, may be I am wrong, but I would advise beginners to use smoke sparingly. I have known bee-keepers who could taste the smoke flavour in their honey after it was extracted. (2) To obviate the nuisance of condensed moisture at hive entrance, which is most in evidence when feeding the bees with syrup before wintering (in my case it lasted several weeks during August and September, causing the loss of very many busy workers, through alighting on their backs in the wet, and becoming chilled). I propose making a gutter, or channel of tin, or aluminium, and sinking it in the floor board farthest from the entrance before the rise under the frames, and by boring two holes, ¼ in. diameter, right through in the corners, the ends of the metal which are bent downwards at right angles may be passed through to enable the superfluous water to drain off and thereby leave the entrance dry and save the bees much inconvenience, and the young bee' lives. Trusting you may find room for my letter in your valuable paper, from which I have gleaned much useful information during the past year. —T. Stanley, Birmingham.

Skeps and Other Sources of Infection.

[9849] Perhaps you will give me space for a few words in reply to the letter on page 6 signed "Mercia."

I cannot claim the unenviable distinction of "some years' experience" of "Isle of Wight" disease, though five years ago my bees were almost wiped out; but to have had the disease for several years hardly points to your correspondent's having any claim to have any particular value set on what he says.

Exactly what does he mean by insanitation, or, as he puts it, "sanitation neglected"? Why should a colony that has given one or two hundredweights or more be weakened. Personally, I would welcome a few such "weakened" stocks.

As to skeps, no doubt the short life of these was a very powerful factor in keeping them free of foul brood, but I do not know about "Isle of Wight" disease. By the way, I fear very few skeps are scrubbed out when emptied. To compare a prison camp to a beehive is simply ridiculous. Men, to be healthy, should not live in a crowded condition, whereas this is the very best condition for bees. Men cannot fly half a mile away, as bees do, for a cleansing flight.

Why does "Mercia" not cure his bees by cleaning out and spraying three times a year? If he believes that will stop the disease, why not stop it in his own apiary?

Certainly, it is well to change queens if you have good ones to introduce, but it won't stop the disease.

As to the extractor, I cannot understand a man laying emphasis in one paragraph on cleaning metal ends, and in the next saying that there is no infection through the extractor. I can only say I should be extremely sorry to extract any of my combs in his extractor after he had been using it. In fact, if combs of mine were extracted in an extractor that had been used in an apiary that was not clear of disease I should destroy them at once.

The latter part of this paragraph (on page 7) is quite as extraordinary. In it he says that he should say infection would come from shallow combs from infected hives that were extracted. Did he think I meant that the machine itself suffered from the disease? Of course, that is the way the extractor spreads disease, as it undoubtedly does. But though the extractor does not, according to your correspondent, spread disease, uncapping knives and ripeners do!

Really, some people's arguments are hard to follow.—R. B. Manley.

Stingless Bees.

[9850] "An Indiana bee-keeper has succeeded in breeding a race of stingless bees. They are a cross between Cyprus drones and Italian queens. These bees gather more and finer honey than their armed cousins and also resist disease better."

From *Paisley Daily Express*, December 31, 1918.

Have you heard anything of this? The absence of the sting, or rather its atrophy, is not much of an advantage, rather the reverse, when the careless apiarist provokes robbing, but the dis-

ease resisting qualities would be of great value.—H. M. Stich.

[Both Italian and Cyprian bees possess stings, and it is very improbable that a cross between the two would result in a "stingless" bee. Their progeny might be very docile, and not inclined to use their stings, which is a different thing altogether. We should need more than a "pinch" of salt to enable us to swallow the statements in the paragraph.—Eds.]

"Celt" (Shenfield).—*Getting thick honey out of combs.*—If it is not granulated, keep it for an hour or two in a warm place, about 90 or 100 deg. Fahr., then extract in the usual way. If granulated, the only method is to break the comb up and heat in a water bath until the honey and wax are melted, strain while still hot in order to get the cocoons, etc., away from the honey. The wax will rise to the surface, and may be taken off when cold.

H. (Hinckley.)—*Creosote for hives.*—This is not suitable for hives. The bees have a decided objection to the smell. In any case, do not use it inside the hives.

G. P. (Renfrew).—*Position of hives.*—We prefer to face hives south-east, and leave them in that position all winter. A piece of board reared in front of the entrance will prevent the reflection of sunlight on the snow from entering the hive and enticing the bees out. The spots of excreta are always found on the hives after a mild day in winter, when the bees have been able to take a cleansing flight. It is not always a sign of dysentery. Replace the hives in summer position as soon as the weather shows signs of becoming warmer, say, about the end of this month.

Miss G. L. Weaver (Bath).—*Spraying fruit trees*—This will not harm the bees, unless done when the trees are in bloom. If sprayed then it will also damage the bloom and spoil the fruit crop.

R. Pollett (Leicester).—*Forming Nuclei.*—Better follow the instructions given, and do not close up the three combs with a division board. This might confine the bees too much and suffocate them. We see no objection to filling the empty space with frames of foundation. After the bees have eaten through the moss in the entrance we should close up with division board.

N. Wood (Arnold).—*Rearing queens from eggs.*—At the time of removing queen from the colony put an empty comb in the centre of the stock from the queen of which it is desired to breed. Three days later go through the combs of the queenless colony and cut out all queen cells. Shake all the bees from the comb put in the other stock, which should now contain eggs, and place it in the queenless colony, when the bees will utilise some of the eggs in it for rearing queens.

"Queen Bee" (Kirkham).—*Forming Nuclei.*—A pipe cover cage will be best to cage the queen in, but other kinds may be used. If the queen is taken away, and it is desired to preserve her, make a nucleus of a couple of combs at the side of the hive. It could be re-united when the final nucleus was made.

M. J. Cook (Abergele).—*Disinfecting hives.*—The best method is to scorch out with a painter's blow lamp. (2) Frames may be boiled for 20 or 30 minutes, but it is safer to get new ones. (3) The appliances should certainly be disinfected, and it will be also advisable to fumigate the shed. (4) Yes.

J. L. (Totton).—See reply to R. Pollett.

J. D. G. (Tottenham).—There may be food in the other portion of combs, but, to be safe better give a cake of candy.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

CHAPTER I. of "Let the Bees Tell You" introduces the D.B.s to the floorboard feeder. Each succeeding chapter will have modern and practical ideas that have been tested thoroughly.—S. H. SMITH. n.10

ONE 62-lb. tin Light Extracted Honey, crystallised, very smooth in grain. Best offer accepted.—C. M. RICHARDS, Florence Villa, Ilfracombe. n.1

DISCHARGED Infantryman wants Stocks or Swarms to restart his apiary. Delivery, April, May or June. Must be healthy. Good prices given.—Box 4, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. n.2

WANTED, Stocks of Healthy Bees and Appliances.—B., Copelands, Staunton, near Glos. n.3

TWO 20 lbs. of splendid Light English Honey, in screw cap bottles, carriage forward, £5.—WILLMOTT, Apiarist, Higham Ferrers, Northants. n.4

WANTED, "A. B. C. and X. Y. Z. of Bee-keeping" (Root).—CUTHBERTSON, Heighington, Co. Durham. n.5

BEES wanted.—State price, quantity, and full particulars to E. C. R. HOLLOWAY, Burwell, Cambridge. n.6

SECTION RACKS, unused, cover 10 frames; one 3s. 6d., two 6s. 6d., four 12s., all carriage paid. Two Wire Excluders, 15 in. square, the pair for 4s. 9d., post free. B.B. Journal for 1915-16-17-18, unbound. What offers?—FRASER, 13, Manse Road, Markinch. n.8

NUCLEI WANTED.—30 Nuclei of Italian Bees wanted, not later than mid-May. Each on four frames, of which two must be of brood and at least one of sufficient food. Would pay 30s. per nucleus, including carriage. Purchase through the Office of the Journal. Would also buy their Travelling Boxes if in good condition at 5s. each. Few early May Swarms at reasonable prices would also be required. Communicate immediately. Preference given to early offers. All nuclei or swarms must be guaranteed healthy.—Box 5, B.B.J. Office, 23, Bedford Street, Strand, W.C.2 n.7

SIX Swarms wanted in May by discharged soldier to restart apiary. State price per lb.—Box 2, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. m.18

WANTED, Swarms, in May.—Box No. 3, B.B.J. Office, Bedford Street, Strand, London, W.C.2. m.41

BUSINESS ADVERTISEMENTS.

1½d. per word.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

Working for Increase.

In the BRITISH BEE JOURNAL for January 23 we gave the "Somerford" plan of making nuclei. This is suited for those who wish to make a moderate increase of stock and secure some surplus honey. Dr. Miller, in his book, "Fifty Years Among the Bees," gives a method he followed one year, by which he increased nine weak colonies to fifty-six during the season. It is not always that methods practised in America give good results in this country, owing to the differences in climate. This one, however, was tried out at an apiary in the Midlands last year, and, with a little modification, proved an entire success. The only variation from Dr. Miller's procedure was that a fair amount of feeding was done. It will be noticed that Dr. Miller says, "The year was unusually favourable for increase, for there was a continuous, though not strong, flow right through until September." Taking the cue from this, our English apiarist decided to feed the two hives, corresponding to 235 and 237 of Dr. Miller's, using a "dummy" feeder for the purpose, and in some seasons it may also be necessary to feed the nuclei. With this precaution, the following method may prove useful to those wishing to work for increase only.

"In the year 1899, at the Hastings apiary, I increased nine colonies to fifty-six, making them rear their own queens, and building up mostly on foundation. No advantage was taken in the way of hauling colonies from home to divide, and the same plan would work just as well if I had only one apiary. The increase was very satisfactory, considering how weak the colonies were at the start. May 29 there were only forty-one combs containing any brood in the nine colonies, counting each comb with brood, even if the patch of brood were no larger than a silver dollar. I doubt if the nine averaged any more than three and a half good frames of brood each. On the other hand, the year was unusually favourable for increase, for there was a continuous though not strong flow right through until, I think, in September.

"No attempt could be made at increase until the colonies were stronger, and the first step looking in that direction was not made until June 12. On that date No. 237 with its seven frames of brood and bees was taken from its stand, and a hive of empty combs set on the stand. The queen was found and put in the hive of empty combs, which by this time had a good many bees returning from the field. The queen of No. 237 was considered the best in the apiary. No. 237 was now set on the stand of No. 235, and No. 235 was set in a new place. Please understand that the stand holds its number, and that when the hive that was on stand 237 is moved as stated it is now No. 235. We now have on 235 a hive full of brood and bees without any queen; and while it will lose the old flying force it had, it will get the flying force that belongs to its present stand. The colony that was moved from 235 will, of course, lose its flying force, and will take its time to recuperate.

"The bees on these two stands 235 and 237—were the principal actors throughout the season, the other colonies in the apiary merely serving as feeders from which to draw brood from time to time. On 237 was left the hive of empty combs, the queen, and the constantly increasing flying force. We now go to the other colonies and draw from them what brood they can spare without depleting them unwisely, leaving foundation in place of the brood. Looking at the record I find this was only four frames of brood. No bees were taken with this brood. An upper storey was put on 237 and these four frames of brood put in it with four empty combs. Of course, the queen and bees would soon be up in this upper storey.

"Matters were left in this shape for nine days, the plan being to visit the apiary every nine days throughout the summer. A stormy day, however, might extend the time to ten days, or Sunday coming on the ninth day might shorten the time to eight days.

"At the expiration of the nine days, June 21, we returned. We took the brood with queen-cells and all bees from 235, and formed two nuclei. Just why we did not start three I don't know, for usually we started a nucleus with two frames of brood, and we must have had more than four frames of brood. No measures were taken to make these bees stay where they were put: it was not necessary with such queenless bees.

"Then we took the upper storey of 237, with all its brood and bees, and put it on 235, taking out the queen and putting her back in the lower storey on 237. Then we looked to see what brood we could get in the seven colonies that acted as feeders, without reducing any of them to less than four or five brood. This time we found six brood, which we took without any bees, and put on 237.

"This was the regular programme each time: forming nuclei with the brood, bees,

and cells on 235; putting all brood and bees from 237 on 235, always leaving the queen at 237; and then getting for 237 a fresh stock of brood wherever it could be spared.

"As none of the assisting colonies were overdrawn, they would be getting stronger, so that up to a certain point more brood could be drawn each time. July 18, for the first time, more brood was drawn than it was thought wise to give to 237, there being twenty frames in all. Sixteen of these, or two hives full, were taken for 237, the other four were used to strengthen some of the nuclei. Not the weakest nuclei were strengthened, but the earliest and strongest, for by being helped these would become strong enough to be helpers in turn. In fact, toward the last of the season, when there was little time for nuclei to grow up, the earlier nuclei rendered substantial aid to the later ones, at least one of them yielding as many as nine frames of brood. The first nuclei were formed June 21, as already mentioned; the last were formed August 23.

"I have gone thus fully into details because I believe this plan can be used successfully by anyone who has only a small number of colonies, and is desirous of increase. The first nuclei are formed early enough in the season so that they have more than time enough to become strong colonies, and the latest must be formed only in sufficient numbers so that they can be strengthened up as soon as the queen gets to laying."

A Dorset Yarn.

What a gamble it is just now in bees; stocks are changing hands at very high prices. Purchasers come to the farm to know if the prices are right. Can only answer: "If the bees are right, prices will do." One parson beekeeper wrote in his letter to a purchaser that it was more or less a gamble to buy bees, with disease in the country. The lure of the craft is taking on. Fruit growers are alive to the importance of keeping bees; the high prices of honey of all grades are appealing to the would-be bee-keeper as to the advantage of a few stocks of bees. Just now, if the JOURNAL were to give more account of the profits the readers had last year it would still further spur on others to make an effort to get more surplus. If one can get it, others ought to do the same. Even if one had to show the loss of a few stocks, those left would show a large profit to the owner. This would apply to last season particularly. [We can only publish what is sent on to us.—EDS.]

One who is starting bees this year, and buying at £4 a stock, knowing nothing at all about them, has taken a fruit farm, and asks how he can read up about them. I showed him the JOURNAL and advised him to buy a "Guide Book" from the BRITISH BEE JOURNAL offices. I gave the same advice to a lady who is coming south for a month or two, looking for a small holding, who has only kept bees two seasons, has only read the JOURNAL (which was all that I had for many years, though I had books on general insects, which included bees). I heard the Rev. George Stallworthy say, when lecturing last winter, "Read up the subject well in the long evenings of winter." Sound advice it is, even for those who have had bees for years, as well as to those new to the craft.

Mr. Price writes in January 30 issue: "It is a pity that more readers, with long practical experience, do not enlighten the pages of the JOURNAL." I fully endorse the whole of the statement. Now is the time to have all the knowledge that the old writers can give us. I believe our little paper will be read more this year than ever before, though so much is written of bees in horticultural and other journals.

Kent seems to be a most progressive county. They publish a small monthly account of work done. Mr. Carter has sent me one for last month. They have a series of lectures by the best men. It makes one wish that our farm was in the "Garden of England," to be able to join them. Many of them have been to see our farm, from each division of the county. I suppose it is these enthusiasts that keep it booming.

We are now having cold frosty nights and cold winds; but without snow. Bees cannot get out very far, though Friday, the 7th, they were to be seen on some snowdrops close to the hives. Saturday the first consignment of 42 lbs. of sugar came, to make spring food for our lot, so soon ours will be in for plenty of stores. We are just getting home another four stocks a sick bee-keeper is parting with. His wife writes he is still too ill to tend to them. There will be one bee-keeper less in Dorset. He lives in a fine agricultural part of Dorset. Cranborne is an old place that has practically stood still, because it is so far away from the railway. There are some fine trees in the pleasure grounds of the big estates that give off a great deal of nectar for bees, and near it are miles of agricultural fields of great acreage, with alsike and sainfoin, miles of downland, used for sheep in summer; but it is never so well for the apiarist where sheep are plentiful, as they crop off so closely most of the flowers that bees delight in, miss-

ing the thistles, which in places grow into miniature trees, covered with their composite flowers. But in places that are fenced away from sheep, the wild mignonette grows luxuriantly, and the rock rose, or, as some call it, the sun rose, gives off its lovely flowers for a long time in summer.—J. J. KETTLE.

Donations for Royal Show.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

	£	s.	d.
Amount already acknowledged	7	17	6
Mr. T. W. Cowan ...	3	3	0
Mrs. L. Tamplin ...	2	2	0
Mr. C. L. M. Eales ...	1	1	0
Uxbridge and District B.-K.A.	0	10	6
Mr. W. V. Waite ...	0	10	0
Miss M. Coates	0	2	6
Miss A. Mayer	0	2	6
	£15	9	0

A Parson's "Bit."

In our Roll of Honour the names of very few clergymen have appeared, probably because many have been somewhat diffident at sending up their names for the reason given below by the Rev. H. Ellison, viz., that they have not been connected with the regular army. We have heard of the gallantry of chaplains ministering to the wounded and dying, amid flying bullets, and splinters of shells, but we do not hear enough of those who have been no less devoted to duty just behind the actual fighting line. The following account, which has been sent at our special request, is therefore interesting. Before the war the Rev. H. Ellison was on the Council of the British Bee-keepers' Association.

"I am very diffident as to giving any details because I have not been in any way connected with the regular Army. Still it shows we parsons and bee-keepers have tried to do what we can. In October, 1914, when Bishops were very loth to let their clergy make any patriotic effort, I proceeded to France, and drove an ambulance for the British Red Cross, putting a locum tenens in charge of my parish, which was then Hothfield, in Kent. Owing to our not being allowed wind screens, and the general inclemency of the weather, I was bowled over, and spent an unpleasant 11 days in a clearing hospital at Merville during the early spring: this illness looked at one time as if it would prove my last, but eventually I reached the Old Country once more, and after careful nursing, regained my health sufficiently to take up fresh service in the East—during October of 1915. This was at a period when men were badly needed for advanced work near the Peninsula, consequently I volunteered to proceed to Mudros, and carried on the advanced base of the B.R.C. on the Island of Lemnos, within sight of Galipoli. The work there was most interesting and varied, as the climate. After the evacuation in the spring of 1916, all our remaining stores were sent to Salonika, and I returned to Egypt, where I spent six weeks in reorganising the canteen and amusements at the large R.C. Convalescent Camp at Montazah, a few miles from Alexandria.

"England was reached again about Easter of 1916. In August I left Kent and took up my duties at Aston-on-Trent, near Derby. From September of that year I have held a captaincy in the 7th Notts and Derby Volunteer Regiment, covering a country district of some 13 miles by 6.

"Only volunteer officers know all that this implies. About 120 partially trained men passed into the army from this company alone.

"It is true we have not been called upon to use the 'sting' in defence of the National 'hive,' but we have reared many thousands of young 'workers,' who have done their bit to build up fresh 'colonies.' HENRY ELLISON."

Meeting of Bee-keepers.

The Editors, THE BRITISH BEE JOURNAL.

SIRS,—With reference to my previous letters in your columns calling for meetings of bee-keepers in London and Birmingham, I beg to inform you that the Birmingham meeting will take place at the Chamber of Commerce, New Street, Birmingham, at 6.30 p.m. on Monday, February 17. It looks as though we are going to have a very good attendance at this meeting. Any bee-keepers wishing to come will be welcomed.

As regards the London meeting, I am sorry to say I have had to postpone this, as I have received so very few replies. I do not feel disposed to have the expense of a trip to London for the purpose of a meeting, as so little good could come out of it.—Yours faithfully, H. B. PEIRCE.

Notes on "Isle of Wight" Disease.—VI.

THE HYGIENE OF THE HIVE.

A correct sense of proportion and an average common sense will suffice to show the student of bee diseases that in their prevention and treatment multiple factors are concerned, and that each has a certain bearing on the other. Further, the concentration of attention on one factor, to the detriment of the others, generally

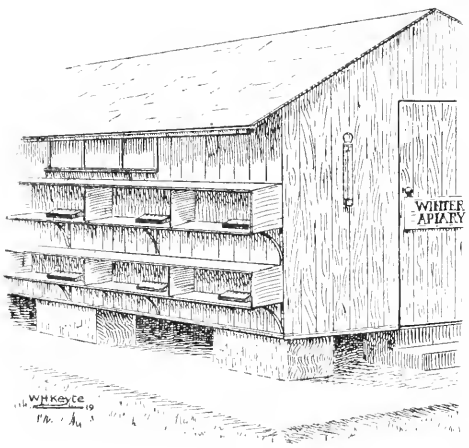


FIG. 2.
PARTIAL EXTERNAL VIEW OF WINTER APIARY.

ends by having all good efforts nullified. What safety and profit could be expected, for instance, from employing a good strain of bees which are badly housed, or of championing a degenerate or a susceptible strain by antiseptic prophylaxis, or of the most up-to-date legislation, if knowledge and education are not spread amongst the mass of bee-keepers for the sake of creating a conscientious and a progressive spirit?

I have no hesitation in saying that the best *winter apiary* in cold countries is a closed shed artificially heated to the safest *minimum* of temperature that will protect the colony from the severity of frosty weather without causing any excitement. This minimum is bound to vary in various districts according to the degree of humidity of the atmosphere. In a certain district a degree of, say, 42 F. or 45 F. would be most suitable, whereas in another, a degree of 50 F. or even higher might be necessary. The object of using this *closed apiary with indirect artificial heat* is twofold: (1) To safeguard the colony against very severe weather which might produce a state of excessive hibernation, or unconsciousness preceding death from starvation, should such severe weather be prolonged. The bees will then starve in spite of sufficiency of stores. (2) To prevent, in the average cold, frosty weather, the excessive feeding by the bees which bears a proportion to their need for the self generation of heat by the metabolic conversion of food. By guaranteeing them an artificial minimum of, say, 45 deg. F., instead of Nature's cruel minimum of 32 deg. F. or less, *less* food for the generation of heat is consumed; otherwise the bees, if prevented through bad weather from taking a cleansing flight for a long time, and if compelled through the same reason comparatively to overfeed themselves, their health is bound to suffer through the accumulation of waste products, and they are predisposed to dysentery, either with or without infection, and the ultimate result in both cases might be the same: the extinction of the colony.

A small-holder cannot be blamed for not possessing a hygienic closed winter apiary, but the big apiarian whose capital permits of its establishment, and who suffers yearly through the loss of colonies from exposure as from other misfortunes, cannot be excused for not investing part of his capital in the building of such a protective winter apiary. Cheap methods in housing bees prove generally at the end to be the most expensive, and the least fruitful.

An open shed is a partial protection and not a complete one. It safeguards against dampness but not against severe cold, and nothing short of a closed and artificially heated but well-ventilated apiary is to be considered a real advancement in wintering. It should *not* be of

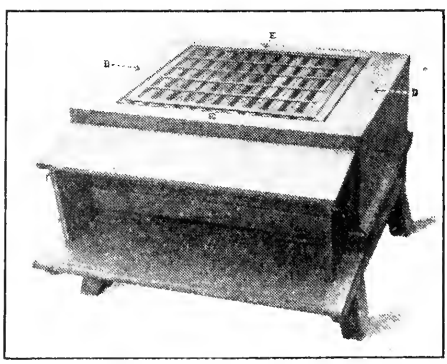


FIG. 4.
D, D = SIDE WALLS; E, E = FRONT AND BACK WALLS, ALL OF WHICH ENCLOSE DEAD AIR SPACE DIVIDED BY INSULATING MATERIALS.

the type of the average American cellar, which is by no means ideal, as its dampness, in spite of artificial heat, is one of

its defects. What I have in mind is an *over ground* shed (serving more than one purpose to the enterprising apiarian) which is well exposed to the air and the sun. Each hive should have its external alighting board, a protecting porch, and an entrance shade. The minimum of temperature guaranteed is far from being a harmful factor; in fact it is quite contrary to this supposition, which has been advanced by some of your correspondents, some of whom give it a scientific colour of physics, although their arguments are quite contrary to the principles of that science. Figs. 2 and 3, by Mr. Walter Keyte, admirably illustrates part of my *idea* of a winter apiary.

As remarked before in the JOURNAL, hives can be *directly* heated artificially on an economical basis, but *indirect* heating is still more economical, and does not demand special fittings beyond a regulated area for the room. The amount of heat which will *continuously* be required from this source will be very small, and whether gas or electricity is used, the cost of heating is not likely to exceed a shilling or two per week for a sheltered apiary accommodating no less than 200 hives.

The least that should be done to outdoor hives to render them more suitable for wintering is to make them possess true double or treble walls, whether fixed or movable, and enclosing a more practical dead air space (divided by good insulating materials imparted during the process of manufacture) as illustrated in Fig. 4 (D, D, being the side walls, and E, E, the front and back ones) than is afforded by the W.B.C. hive, the most popular hive in England at the present time. The dead air space between the outer and inner casings of the latter hive is far from being real, and the advice of packing it with leaves and other materials which are likely to remain damp once they become so, is most unsound. In addition, this comparatively free space serves as the graveyard for many bees that happen to escape in it and cannot make their way out. The floorboard of a hygienic outdoor winter hive should be double-walled, as mentioned before, and preferably enclosing some good insulating material, and the legs must be sufficiently high to permit of the adequate circulation of the air beneath the hive, and in order to avoid the moisture of the ground and its foliage sloping concrete stands for the hives or slate supports for the legs are desirable. The porch must be a reality and a protection, not a fancy rudiment, and it would be profitable to completely insulate the colony as best possible by dividing the porch in the manner suggested in Fig. 5. The bees under such arrangement have a free choice to go in and out of the hive, yet by the use of the sliding board depicted they are in a sense detained and discouraged from flying in unfavourable weather. Under all conditions, such a hive, especially if possess-

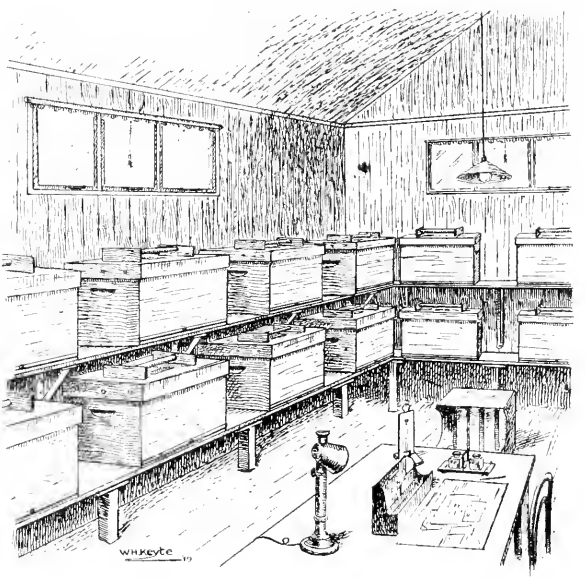


FIG. 3.

PARTIAL INTERNAL VIEW OF WINTER APIARY.

ing a backward, sloping roof, instead of the average ornamental one, is a protection against rain, snow or wind, and an advancement in conserving the heat of the cluster from *all* directions.

The home of the bee is next in importance, if not equal in importance, to the bee herself. In the prevention and treatment of malignant dysentery its influence and bearing should be closely studied, and although I have refrained in these concise notes from entering into detailed discussions but simply directed attention to certain important points, I cannot but refer again to the hygiene of the hive in another contribution.*

A. Z. Abushady.

* The previous article appeared in the B.B.J for February 6.

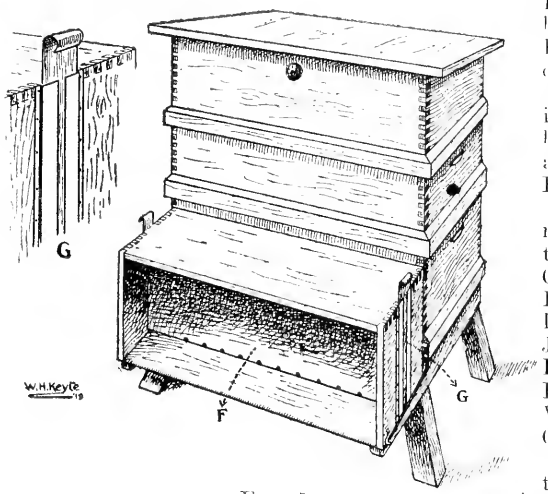


Fig. 5.

F = Detention Board. G = Slide for Covering the Aperture in the Side Wall of the Porch.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, January 16, 1919.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. G. Bryden, J. Smallwood, G. S. Faunch, G. R. Alder, G. J. Flashman, F. W. Watts, T. Bevan, J. Herrod-Hempsall, Association representatives: J. Rae (Essex), Rev. A. C. Atkins (Sussex). The Secretary was unable to be present, and his duties were performed by J. Herrod-Hempsall.

Letters of regret at inability to attend were received from Messrs. T. W. Cowan, A. G. Pugh, C. L. M. Eales, W. H. Simms, W. Sanderson, Major Sitwell, and Sir Ernest Spencer.

The minutes of the Council meeting held on December 19, 1918, were read and confirmed.

The following new members were elected:—Miss M. Mavor, Miss G. L. Weaver, Miss A. Mayer, Rear-Admiral H. G. Sanderman, Major N. S. A. Harrison, Rev. E. C. Pitt-Johnson, Messrs. J. D. Green, A. H. Pyke, H. B. Peirce, A. Briers, R. J. Overton, C. Rippon, M.A., F.E.S., A. F. Knight, A. Riley, E. Terry, G. Miller.

Life member: Major E. H. Humphrey-Owen.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for December amounted to £62 14s. 8d. The bank balance on January 1 was £96 0s. 3d. Payments amounting to £6 5s. were recommended.

It was resolved that the annual meeting be held on March 20, to be followed by a conversazione; that Mr. Judge be asked to open a discussion on "The Future Developments of Bee-keeping."

The report of the Intermediate Examination was presented, and it was resolved to grant certificates to Miss H. H. M. Coates, Miss A. L. Macdonald, Rev. G. H. Hewison, Rev. E. J. Bartleet, Capt. C. C. Lord, Messrs. J. Arnfield, F. W. Watts, J. A. Bramley, C. J. Law, J. A. Johnston, R. Cruickshank, J. A. Thomson, C. M. Fullarton, H. W. Round, F. L. Wilson, W. H. J. Prior, J. W. Price, and R. J. Overton.

A hearty vote of thanks was passed to the Examiner, Mr. D. M. Macdonald.

Mr. Clay presented a book, "Bees and Wasps," for the library, and a hearty vote of thanks was passed for his kindness.

Next meeting of Council, February 20, 1919, at 23, Bedford Street, Strand, London, W.C.2.

Causes of Infection.

I have been wondering, since reading the article under the above heading, which appeared in the B.B.J. for January 23, whether the Editor ever loses his temper when dealing with the volume of correspondence that must pass through his hands before going to the printers. At any rate, he seems to be possessed of a patience like Job, to be able to write such a mild footnote as appeared at the end of the article by "Bar Frame."

Perhaps the best way out of the difficulty is to let it appear in print and for readers to criticise. Unfortunately, I have not always the time or inclination for this work, but I do think it absurd and a waste of space to be told, after a

decade in which a terrible disease has killed so many bees, that cork dust and mice are the "cause of infection." To all experienced bee-keepers it is quite clear that the cause of infection in the majority of cases is due to the thieving habits of bees. In plain words, bees will steal honey from anywhere it can be had; no matter to them if it comes from a hive where the bees are already dead, or live stocks weakened through disease. They get it and take it home; hence they carry infection (spores) to their hives.

The part that particularly interested me was that which was styled the incubation period, and the writer went to great pains to show us that if the period of incubation is as long as 18 months, as some writers say, then the bee (mark the word!) that got the infection first must have been in existence at the time of Queen Anne.

How humorous! But then, probably, the writer was thinking of the old lady that kept a bee and a cow. At any rate, he must have kept two bees himself, because he mentions a queen and a worker bee. To be serious, how would his calculation work out in a case of foul brood, where the brood has only 20 days at most in which to exist as such? Yet we know that from the time a stock of bees becomes infected until it is rotten with foul brood may extend over several seasons. Someone may remark that this is different. There is no difference, except that one is a brood disease, which we know how to deal with, and the other is one that affects the adult bee, and is still somewhat of a mystery.

I do not presume to understand bacteriology, but I reason the matter out something like this: Supposing a bee on a robbing expedition carries home some *Nosema apis* or foul brood spores. It does not necessarily follow that that bee dies of disease; it probably dies a natural death, but it has done the mischief of carrying home spores (seeds of disease) which in due course will find suitable soil in which to flourish. This will, of course, take time, and the vitality of the bees, and climatic conditions, may retard its development for an indefinite period.

In the case of *Nosema*, we are told that the spores must first find their way into the stomach and bowels of the bee; having done so, they become active—that is, develop (we are told by scientists) from spores into two other stages. First, the Planont, or moving stage, and secondly the Meront, or fixed stage. During the former the parasite is continually and rapidly increasing, but it is doubtful whether the bees always show signs of sickness at this period. In the second stage, however, there is not much doubt about sickness, as it is so easily observed if there are many bees affected.

I should like to impress the fact that it is possible only a very few bees may get the disease at first, and some of these will probably die away from home; but there will be others left at home which will carry on the infection to other generations of bees, as yet unborn. Therefore, I think it is quite reasonable to suppose that this disease, although present, can be in abeyance for a very long time. This accounts also for the greater fatality during the autumn and winter months, when the life of the bee is longer.

Consequently, on the one hand we may get a very long period of incubation as a stock, whilst on the other side the time is very short for the individual bee.—J. PRICE.

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

253. When drone cells are cut away from a comb how may the rebuilding of the drone cells be to a large extent prevented?

254. What is the best method of preventing breakages when removing filled sections from a rack?

255. Why should hives be specially protected against north and west winds, and how best can this be done?

256. By what arrangements may both section honey and extracted honey be obtained from the same hive?

257. What are the necessary and the desirable features in an implement for use in uncapping combs for extracting?

258. It is stated that racks of sections should be well covered in a hive for warmth. What is the reason given?

259. Compare standard frames with shallow frames for use for extracted honey.

260. What effects may be expected from the use of foundation made from wax mixed with other material?

261. What may cause excessive heat-production in a hive in winter, and what consequences from it may be looked for?

262. How far do the flavour and colour of honey depend on the skill of the bee-keeper?

263. Draw a sketch of, and describe, the tongue of a bee.

264. What is known of *bacillus pluton*? How may its presence be (1) suspected, and (2) detected, and how may it be (1) avoided, and (2) exterminated?

J. L. B.

A Plea for Two-Years-Old Queens.

[9851] I was interested in Mr. Puck's letter in B.B.J. of Jan. 9, but there is one point where I disagree with him. He says the old bees returning to the old stand will rear the finest queens *from the egg*. I venture to say that not once in a thousand times will queenless bees rear queens from the eggs; if they have the choice of young larvæ, they are always in a big hurry to replace their queen when deprived of her. And another thing: I do not think that good queens can be reared where there are only old bees in the hive, as this job is always undertaken by young nurse-bees. Mr. Puck says, by careful study of Nature's ways we can apply her teachings to our own purpose; but, to me, it appears that robbing a hive of its queen, and then robbing it of its nurse-bees and forcing the old bees to undertake a duty they are no longer naturally fitted for, is flying directly in the face of Nature, and therefore cannot have good results.

With regard to two-years-old queens, can we be always certain we have them? A neighbour of mine, and a correspondent to the B.B.J., Mr. E. J. Thompson, a bee-keeper of 30 years' standing, told me that it was his opinion that a swarm always re-queened itself the same season, and I myself have noticed that it is difficult to keep a clipped queen two seasons. —T. SHARPE.

[We think bees do re-queen themselves more often than is generally supposed, and we also think they would be more inclined to do so if the queen was clipped; but a more likely explanation of the disappearance of clipped queens is that they are lost in attempting to accompany a swarm. This, as we have pointed out aforetime, is very likely to happen when there is no one present to see the swarm issue, and it returns, minus the queen.—EDS.]

Co-Operation or Profiteering?

[9852] The highest price for a nucleus of bees on four frames which I have been charged (for delivery early in May) is 35s. I have already paid for ten such nuclei, each headed by an Italian queen from Signor Penna; and I have no doubt that many good breeders who care for no more than a just profit will charge no more than 30s. per nucleus. This is ample price at the basis of £4 to £5 per colony on ten frames. Conditions of bee-keeping this year are not by any means worse than those of last year. Can those who claim to be interested in popularising bee-keeping find any excuse or pride in demanding unreasonable prices?—SPECTATOR.

[Our correspondent does not state in what year he was supplied with a four-frame nucleus at 35s. At the present time Signor Penna's price for queens is 10s. each; at 30s. per nucleus this would leave only 20s. for the four combs of brood, and honey, and the bees, and the apiarist's time and trouble. This is little, if any, advance on the pre-war price of a four-frame nucleus, when a good stock of bees, on ten combs, would make no more than £2.—EDS.]

Opening for a Bee-keeper.

We have had brought to our notice a good opening in a white-clover district for a young lady or gentleman with some experience in bee-keeping wishing to have a start. Some assistance and support would be given. Will anyone desiring to take advantage of this communicate with Apiarist, B.B.J. Office, 23, Bedford Street, Strand, W.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, Healthy Stocks of Bees and Appliances. — W. SMITH, Hook Farm, Aldingbourne, Chichester. n.15

WANTED, to complete volume, No. 1,891, September 19, 1918, of the BRITISH BEE JOURNAL. —ARTHUR F. HARDY, The Palace House, Bishop's Waltham. n.14

SALE, Deep and Shallow Frames, drawn out, guaranteed; Comb Sections, drawn out.—ORR, Horsforth, Leeds. n.15

TWO Stocks Bees, healthy, and Appliances for Sale; in one lot preferred.—WHITEHEAD, Charnock Richard, Chorley. n.16

WANTED, two prime May Swarms, also two strong Stocks, to be delivered in April.—VINCENT, 132, Croydon Road, Anerley. n.17

ABOUT 160 used Standard Frames (made up); three Tin Feeders, glass top; three wood ditto, glass top; one wood ditto, tin lined, sliding glass view hole; one round tin ditto. Offers wanted.—Penderel Lodge, Tenterden, Kent. n.18

WANTED, by middle of May, strong 3-frame Nucleus, with brood, 1918 Italian Queen, and guaranteed free from disease; carriage paid; returnable box. — MOTT-DISTIN, Holmwood, Walton Park, Clevedon. n.20

Roll of Honour.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

This list will be closed March 20. We shall be pleased to receive any further names as soon as possible, also the names of any bee-keepers who have been killed or wounded since their names were previously printed in our list.

Lieut.-Col. C. Weaver Price, Ashgrove, Brecon, S. Wales—H.Q. Tank Corps.

Lieut. E. Franklin, Burton Green, Kenilworth (Assistant Expert Warwickshire B.K.A.)—A.S.C.

Signalman B. J. S. Jones, The Mumbles—R.G.A. Died of influenza at Rouen Hospital.

W. Knight, Westbrook, Langbro', Wokingham—R.A.F.

Pte. E. S. Garwell, Sheffield—7th Batt. East Yorks Regt. Died of wounds in France, September 21, 1918.

Pte. H. Shard, The Hough, Alderley Edge, Manchester—26th Batt. Royal Welsh Fusiliers.

In connection with the above the following is the splendid record of Lt.-Col. C. Weaver Price, and we feel sure our readers will join with us in congratulating him on his success:—

South Wales Borderers: Enlisted, September 5, 1914; Corporal, September 6, 1914; Sergeant, September 13, 1914; Coy. Q.-M. Sgt., September 17, 1914; Regtl. Q.-M. Sgt., September 28, 1914.

Motor Machine Gun: Transferred, November 21, 1914; Battery Sergt.-Major, May 15, 1915; Landed in France, July 13, 1915; Commissioned to own Unit, December 9, 1915.

Tank Corps: Transferred, April 15, 1916; Lieutenant, August 16, 1916; Captain, November 18, 1916; Awarded M.C., January 1, 1917; Staff-Captain, July 21, 1917; Major, April 16, 1918; Lt.-Colonel, October 15, 1918.

A Dorset Yarn.

After frost and cold North winds, Thursday brought a change at mid-day—wind went South, and the warm sun on the hives brought out the bees in great numbers. One strong Italian lot was out for the first time; the blacks had sent out a good lot at other times when the sun was warm, but this lot had not ventured out in numbers before. The sharp frost has spoiled the flowers very much; but it will not be for long, as the time of flowers is coming, when Nature covers the earth with the best of blossoms. Snowdrops are not spoiled; their flower stems have once more regained their upright posture after going over with the frost. Daffodils are very forward, primroses have been open the greater part of winter; but it is the willows that help our bees. I always notice that they begin to draw up cells above the bars, between the strips of wood that are placed over them, for passage way. A delightfully flavoured honey is gathered from willows round here. One would have thought that fresh pollen would have been the greatest attraction, but each year we see these short cells on top of bars glistening with honey. We are always glad when these begin to bloom: it is numbers that count in food for bees. Hedgerows are big with them, not been cut for years; woods are full of them. No wonder bees have a fine time just when they are in flower. I notice that they all seed freely, young ones come up and soon grow into flowering bushes; they all root freely, and where the cuttings are from the male trees, they look very beautiful in the flowering season.

A smallholder who keeps bees came for some raspberry canes on Saturday; another enthusiast for Italians. His nineteen stocks were "all correct." He lives at Parkstone, in the heather district, and works mostly for extracted honey. He is one who successfully extracts heather honey. (Ours is so thick in the combs it will scarce run on the dish when cut in autumn. Some we are using now will not run out of cells at all; no sign of candying in any section. They were some that were put on in August.) It was most encouraging to hear of his nineteen stocks. I asked how he had wintered them so successfully. He said he had covered them over with extra boxes. There was not time for details of entrances or air; but it was as he told me, one feels that the method is worth seeing. He is young, has been bred to bee-keeping. His father, who has another holding near Weymouth has always kept bees. Two extremes of soil: Weymouth, with strong, adhesive soil, which, when well worked, is most productive; Parkstone heather district is black

sandy soil, which wants plenty of manure to make it productive. Some of these smallholders get wonderful crops out of it. This one, with his bees, will be a "boon and a blessing" to the other fruit-growers round him.

It is somewhat of a mystery how the bees, in cold weather, can hold their fæces until the weather is suitable for them to come out of their hives for exercise, and leave it outside the entrances. I saw some of it on the peach branches that were round our hives. The big lot of Italians left a lot of it about as they flew round the yard on Thursday. One lot in a big straw skep with a hole in the top threw round the boards a great deal of excrement. The hole in the top has been open all winter, and covered over with a tarred box to keep off the weather. Now, whenever the box has been lifted off there has always been a lot of bees round the hole. I cannot conceive how they have kept warm enough to live all this last time of intense cold winds. I have another lot, a stray swarm that came into an empty hive, went up through the bars into the roof. This is flat (a champagne box with tarred cardboard on the top). Now, when the tops of hives were white with frost, this one, on the right-hand corner, where this late swarm had clustered and built its citadel of well-ordered streets, the heat of the bees beneath, kept it from the covering of white frost that was on the other hives. One can understand this lot keeping warm, but those in the straw skep with the open top could not have kept up the same amount of warmth.—J. J. KETTLE.

Bee-Keeping in Scotland.

I read with much interest Mr. J. J. Kettle's remarks in December 12 B.B.J. respecting work being done by our friend, Mr. J. Tinsley, at the West of Scotland Agricultural College, Glasgow, and at their experimental apiaries at the Holme Farm, Kilmarnock.

The report to which Mr. Kettle refers was written last year, and as I was recently in Scotland, and made a visit to the apiaries at Kilmarnock, in company with Mr. Tinsley, I am pleased to be able to state how the bee-keeping schemes have progressed since that report was published.

Mr. Tinsley, as many of your readers are no doubt aware, is not a "canny Scot," but our friend of past years, with whom we have had many pleasant experiences amongst the bees and "shows" in Staffordshire. He has been for some four years the bee-keeping expert, lecturer and apiarist to the West of Scotland Agricultural College. He is very popular as a lecturer in the extensive area covered by the College activities, and is in close touch with all bee-keepers who report any disease in their apiaries, travelling long distances to investigate, and giving advice and assistance gratis to all who are in difficulties.

He is, with other professors, deep in the study of bacteriology, and they certainly seem to be getting masters of our dreaded foe, "Isle of Wight" disease, for I was delighted to learn that nearly a 100 colonies have been distributed amongst bee-keepers during the past season, and there are still about 80 stocks in the model apiaries with which to carry on the good work next year.

It was too late in the season to make an inspection, but I was pleased to note an utter absence of dead bees, or debris, which unfortunately one has become so accustomed to find on the alighting boards, etc., during recent ravages of "Isle of Wight" disease.

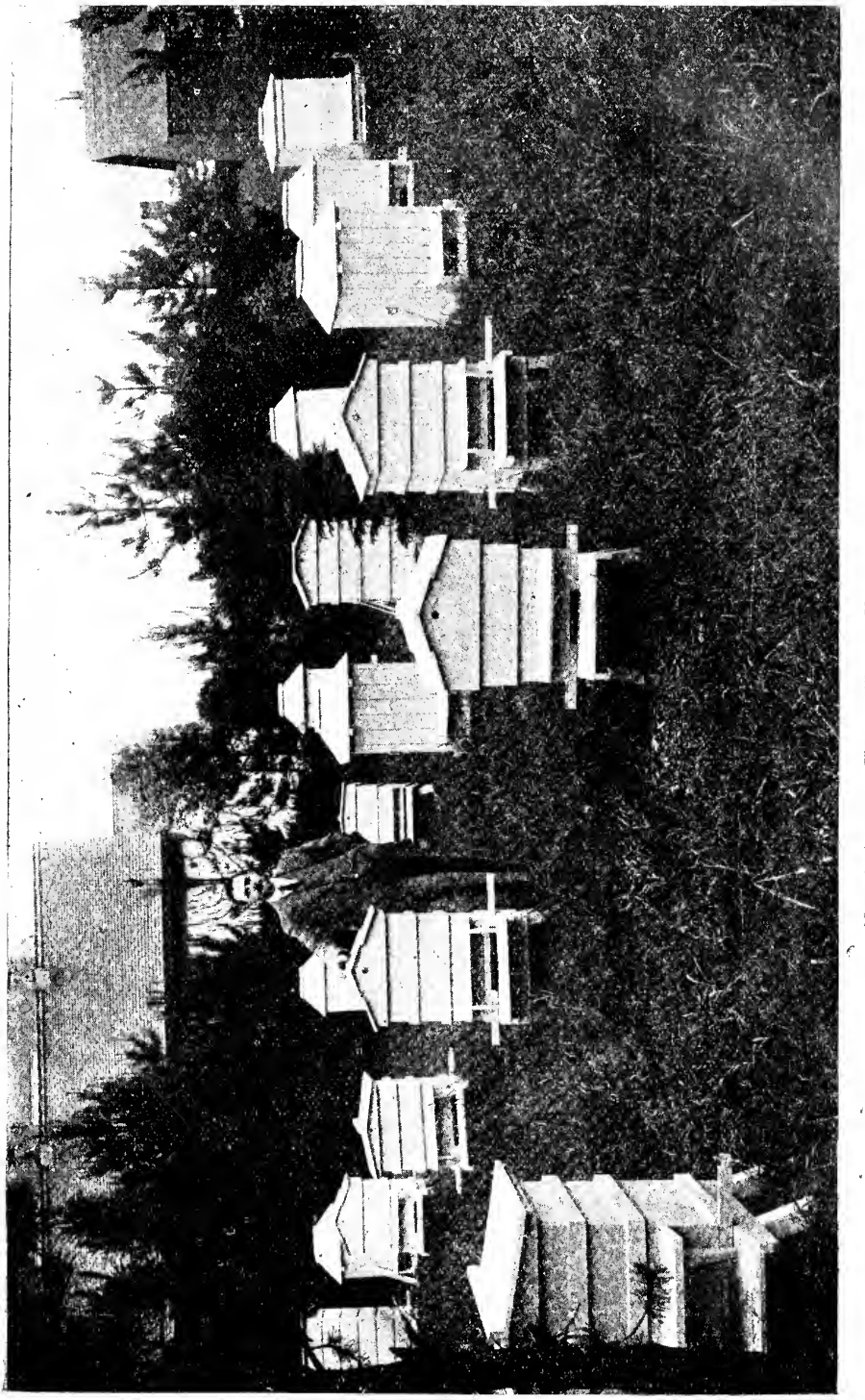
I enclose you a couple of photos of the two apiaries, from which it will be seen several classes of hive are being experimented with, and I was delighted to find how well the authorities supply Mr. Tinsley with everything needed to enable him to give the large number of pupils passing through his hands such tuition that will enable them to pass the severe technical examination in both practical and theoretical bee-keeping which the College provides for their students.

The study of bee anatomy, diseases, etc., by means of the microscope is a special feature, and the fact that the experimental apiaries have, notwithstanding the actual importation of disease for experimental purposes, produced very large quantities of most excellent honey, in addition to sending out such a large number of stocks, whilst retaining such a goodly number for future operations, is certainly very cheering to those of us who have had such disappointing results to report from other re-stocking apiaries.

Mr. Tinsley has already had a number of disabled soldiers pass through his hands with a view to teaching them modern bee-keeping, and it is hoped to do further good work in this direction in the immediate future.

I feel like Mr. Kettle, that the work being done for our industry by the West of Scotland Agricultural College, Glasgow, is, indeed, commendable, and hope their researches will be rewarded by the discovery of that which we are all anxiously waiting for, *i.e.*, a real cure for "Isle of Wight" disease.

A. G. PUGH.



No. 2 Apiary, Holme Farm, Kilmarnock.

The Bee Garden.

THE OFFICIAL LISTS.—(*Continued.*)

	Values. Honey.	Pollen.
Allium moly	3	—
,, *acutangulum*	2	2
Colchicum autumnale	1	—
Crocus vernus	3	3
Erianthis hyemalis	2	1
Fritillaria imperialis	3	3
Galanthus nivalis	2	—
Narcissus poeticus	1	—
Scilla præcox	2	2

The Alliums are a genus better known to the vegetable gardener than to the mere lover of flowers. *A. cepa* is the odorous onion, *A. porrum* the leek, *A. sativum* the garlic, so beloved of the Latin races, *A. schœnoprasum* the delicate-flavoured chive, and *A. ascalonicum* the shallot or eschalot, so named from having been brought from Ascalon by the Crusaders.

Anyone who has taken the advice given in these columns to grow his own onion and leek seed will have noticed how the round heads were crowded with bees. My market-gardener neighbour let a quarter of leeks go to seed last season, and my bees neglected all other sources of nectar while these were in bloom, a considerable time. *A. moly luteum* is a yellow-flowered bulb of easy culture, and very showy. I grew it several years ago, on a piece of accommodation ground, where I kept my bees, and it flowered year after year, with no attention. *A. acutangulum* is closely allied, and has an added value for pollen.

Colchicum autumnale, Meadow Saffron, is a well-known autumn-flowering subject, the more noticeable because it blooms before any "grass" or foliage appears. This bulb is very conspicuous when set in lawns or other grassy sites, its crocus-like flower being striking alike by its size and its colour (mauve). Although known as Meadow Saffron, it is not the commercial source of saffron, which is obtained from a crocus, *C. sativus*, an autumn-flowering plant, the cultivation of which for this purpose gave the name to Saffron Walden, in North Essex.

Crocus vernus, the typical spring-flowering purple crocus, is too well known to need any description. As a border edging, or in masses, either alone or alternating with *C. luteus* or *C. aureus*, the yellow-flowering ones, it is most effective. Indeed, much more use might be made of the crocus. Planted in ribbon beds, *i.e.*, in rows, each row being of a different colour, say, purple, yellow, white, and blue, striped, they are remarkably attractive, while they lend themselves admirably to arrangement in fancy designs or groupings. Clumps of one colour, or circles, either single or multiple, with an axis clump of a colour differing from that used in the circumferences, make a most brilliant effect, especially if the centre be yellow and the outer circle purple, or *vice versa*. The early sun shining on a large bed planted in this way produces an impression of the greatest brilliancy.

The crocus can be grown successfully in almost any soil and situation, but a dryish, sandy soil is the best. Slugs and voles are very partial to the corms, and sparrows often spoil the blooms by pecking at them, supposedly for the saffron content. The usual depth and distance for planting is two inches, but the crocus is very accommodating in respect to the depth at which it may be planted. When set in beds intended to receive, later, bedding plants, they may be inserted 6 or even 8 ins. deep and yet come to the surface and flower. Save under the most unfavourable conditions, crocuses will continue to flower freely for many years without attention if left undisturbed. In the best practice, however, they are lifted, divided, and re-planted every three or five years. As the young corms form on top of the old ones they gradually get nearer to the surface of the soil. For the nourishment of these, and to secure proper blooming the "grass" must be left to die down of its own accord. If considered untidy, it may be plaited or knotted, but must not be cut off while yet green.

Eranthis hyemalis, Winter Aconite, is a naturalised British plant, with largish, pale yellow flowers, produced from late December to March. It belongs to the same order as the Ranunculus, and is found wild on the Continent. One of the earliest hardy flowers, its solitary yellow bloom, with its ruffs of anenome-like foliage, the whole but 6 ins. high, strikes the first note of renascence after the turn of the year, and, planted in a sunny position, where the snow melts first, heralds cheerily the coming spring. Its first blooms are contemporary with those of the black hellebore and Winter Heliotrope, *Petasites fragrans*. The Winter Aconite is another subject indifferent to soil and aspect. I have grown it in shallow, gravelly soil, where it spread and formed fine clumps, yet it is most happy in damp, shady woods, while doing well in borders, and flourishing in grass, like buttercups, so long as the grass be not mown too early. *E. cilicica* is a later flowering variety, not coming into bloom until March or even April. Deeper in colour (orange) than *E. hyemalis*, it is not so hardy as the latter.

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

265. When and how should shade be provided for bees?

266. When bees are idling what is to be suspected?

267. What means are recommended for supplying water to bees in the absence of natural supplies?

268. Define micropyle, burr-comb, agamic reproduction, dummy, hymenoptera, nadir, imago, and planta.

269. Why is it important that all sections should be removed from a hive immediately on the cessation of a honey-flow?

270. Describe a filled section suitable for exhibition at a honey show.

271. What is the composition of honey?

272. Describe the operation of clipping a queen's wing.

273. Expand the statement that "bees may be expected to do the unexpected."

274. Classify the following names, making separate lists showing those which are synonymous: — Sour brood, dysentery, black brood, European foul brood, American foul brood, chilled brood, sacbrood, strong-smelling foul brood, odourless foul brood, bee pest, "Isle of Wight" disease, bee paralysis, May pest, microsporidiosis, pickled brood, *Nosema apis*, brood pest, and vertigo.

275. When a swarm is noticed, and the hive from which it has issued is not known, how may the fact be ascertained?

276. Make notes for a 15-minutes lecture on the main differences between the working of an out-apiary and that of a home-apiary. J. L. B.

Staffs. Bee-Keepers' Association.

At a meeting of the Staffordshire County Bee Committee, held on Thursday, the 13th inst., at the County Buildings, Stafford, it was reported by the secretary that there were over 90 fully paid-up shares in the re-stocking scheme, and that 8 Dutch stocks had been applied for, also 20 Italian queens. The suggested site for the apiary, which is about six miles from the county town, and quite near a railway station, was approved. The order for appliances, hives, nuclei, boxes, frames, and foundation was agreed on, and it was specified that new appliances only must be used, to avoid risk of infection. A circular letter was drawn up for issue to shareholders, embodying the conditions of issue of nuclei to shareholders, the price being fixed at 30s for a four-frame nuclei, and fertile Italian, or hybrid Italian-Dutch queen. The secretary also reported that to date, 220 bee-keepers, owning 785 stocks, had been allotted their ration of sugar for bee food. Members are advised to see that they obtain the correct quantity and *quality*, as there seems to be a great divergence of opinion amongst sugar retailers as to the requirements of bee-keepers.—W. GRIFFITHS, Hon. Sec.

[Some retailers are supplying *brown* sugar for bee food. This is not suitable for the purpose. *White* sugar should be insisted on.—EDS.]

Monmouthshire Bee-Keepers' Association.

ANNUAL MEETING.

The first annual general meeting of the above Association was held at the Queen's Hotel, Newport, on February 8, and was well attended. Mr. L. Forestier-Walker, the President of the Association, took the chair at 3 p.m.

The minutes of the inaugural general meeting, held on September 28, 1918, were read and confirmed, sundry correspondence dealt with, and the rules of the Association, previously adopted by the Committee, confirmed. The officers and committee were re-elected, and the Report, which showed that the Association was making very gratifying progress, was adopted.

Mr. Forestier-Walker referred to the importance of bee-keeping, which was at last becoming recognised by the Government, and promised to do all in his power to forward the interests of the Association and of bee-keeping in general. The question of the spread of infectious diseases by means of hives, in which bees last died of disease, being left about, was discussed, and the following resolution was carried unanimously:—

"The Monmouthshire Bee-keepers' Association urges the Government at once to introduce legislation to protect the bee-keeping industry—

"(1) By a periodical examination of all hives by a qualified person;

"(2) By making infectious diseases of bees compulsorily notifiable, any person possessing such and not notifying the fact to be liable to a penalty."

It was also pointed out that certain persons, who had infected hives lying about had applied for swarms of bees to the Horticultural Sub-Committee. It was decided to write to the Horticultural Sub-Committee on the subject, urging them not to supply bees to anyone until after inspection.

The hon. secretary then described the steps he had taken to register bee-keepers for the supply of sugar for feeding purposes. It was also explained that the Committee had considered the Government re-stocking scheme, but disapproved of it. The Association, however, will endeavour to obtain bees for those members who have none, provided that they send their names to the Assistant Secretary, Mr. R. Hancock, 1, Railway Terrace, Rogiet.

The Rev. H. G. Stanley expressed the hope that a good number of members would qualify for the certificate of the British Bee-Keepers' Association, and pointed out that the Royal Show to be held at Cardiff in June, would afford an excellent opportunity for taking the examination. Names should be sent to the hon. secretary, G. R. Strong, Magor.

The proceedings terminated with hearty votes of thanks to the chairman and other officers.—*Communicated.*

Somerset Bee-Keepers' Association.

ANNUAL MEETING.

The annual general meeting of this Association was held at Weston-super-Mare on Saturday, February 8, when Mr. T. W. Cowan, F.L.S., F.G.S., etc., presided over a gathering of about thirty-five members.

The report, read by the honorary secretary, Mr. L. Bigg-Wither, showed that the membership had again decreased slightly, 115 bee-keepers having paid their subscriptions for 1918, against 118 in the previous year.

This decrease in membership was primarily due to the ravages of the " Isle of Wight ' disease, which during the past few years had reduced the number of stocks in the county by at least 75 per cent. In 1913, before the disease began to take toll in our apiaries, over 500 bee-keepers belonged to the Association, and it was hoped that with the decrease of the disease and with the advent of healthy bees to re-stock the county, the Association would once more regain its flourishing condition. To combat the disease, Flavine had been experimented with by many members. Spring and early summer treatment had given very encouraging results, but in some cases disease had re-appeared among the " Flavined " stocks in the autumn, so further experiments with the drug are necessary. Owing to the absence on military service of the majority of the Association's experts, very little expert visiting was possible during 1918.

The accounts showed a balance in hand of £37 14s. 9d.

The President, in moving the adoption of the report and balance sheet, said that the fact that they had lost so many members was not to be wondered at, seeing the great havoc the disease had wrought among the bees.

The report and balance sheet were unanimously adopted.

Mr. W. T. Cowan then proposed a vote of thanks to all the retiring officials, which was seconded by Mr. L. E. Snelgrove, and carried.

Mr. T. W. Cowan was then unanimously re-elected President for the coming year. Mr. L. Bigg-Wither, in proposing his election, remarked that he was sure that he voiced the opinion of all present when he said that the Association was most honoured in having the foremost of all British bee-keepers as their President. Colonel H. F. Jolly seconded, and hoped that Mr. Cowan would be their President for many years to come. Mr. Cowan, in returning thanks, gave a brief outline of the re-stocking scheme. He stated that Government had at last recognised bee-keeping as an important rural industry, and was going to help the country in a practical manner.

The Food Production Department had arranged to import a limited number of Dutch colonies (in skeps); also a number of mated Italian queens, direct from Italy. These bees were being purchased by the different re-stocking Associations, Government charging the sum of £2 10s. for each stock, and 10s. 6d. for each additional queen. The Somerset Agricultural Executive had formulated a re-stocking scheme, in conjunction with the one already arranged by the Somerset Bee-Keepers' Association a year ago. Members of the Association desiring bees must apply for shares, valued at 20s. each, and they would then be entitled to receive nucleus colonies in rotation, each share being considered part payment for one nucleus. The actual price of each nucleus would be fixed later when cost of production was known.

Every nucleus would be sent out with a pure Italian, or Italian hybrid queen, preferably the former, as it was the Italian, and not the Dutch strain, that was of use for honey production.

The vice-presidents of the Association were all unanimously re-elected for the coming year.

All members of the Council, with the exception of Mr. J. H. Burton, who wished to retire, were re-elected, and Dr. J. Wallace, of Weston-super-Mare, was elected on the Council in addition. Colonel H. F. Jolly we re-elected chairman.

Mr. R .G. Harris was re-elected honorary auditor, and Mr. L. Bigg-Wither honorary secretary and treasurer. Colonel H. F.

Jolly and Mr. Eldred Walker were nominated as delegates to the British Bee-Keepers' Association.

Mr. L. E. Snelgrove, secretary of the Somerset Horticultural Sub-Committee, who had organised the taking of the census of bee-keepers in the county, stated that prior to the outbreak of the disease, bees had been kept by 1,500 persons, and the number of stocks was about 8,000. The number of stocks at the present time was only about 2,000 and a good proportion of these were known to be diseased.

He hoped that before long notification of disease would be compulsory.

A hearty vote of thanks was passed to Mr. Snelgrove for all the work he had done in connection with the census, and in arranging details for the "re-stocking" scheme.

The meeting terminated at 4.30 p.m., when the members adjourned for tea.

Later, Mr. Snelgrove gave a very interesting and instructive lecture, illustrated by a number of beautiful lantern slides, on "The Pollination of Flowers by Insects." The marvellous manner by which Nature ensures cross-fertilisation was shown by numerous drawings and photographs, and each contrivance was lucidly explained by the lecturer. The lecture lasted about one hour and a half. Colonel H. F. Jolly, in moving a vote of thanks, congratulated Mr. Snelgrove on the able manner in which he had explained such an intricate subject. Mr. S. Jordan supported and endorsed the chairman's remarks.

Glamorganshire Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting was held at Cardiff on Feb. 8, Wm. Dyche, Esq., B.A., in the chair. There was a representative attendance from all parts of the county, and it included Messrs. D. Davies, B.A. (Bargoed), E. Gibbon (Clydach), A. Roberts (Aberdare), D. W. Walters, B.Sc. (Barry), C. J. Wiltshire, B.Sc., D. R. Morgan, R. James (Penarth), Wm. Morgan, I. Whitehead (Llantrisant), E. Butt (Pencoed), H. Skelding (Treforest), C. Spiller, and D. Hardcastle.

Mr. Freeman Gravil and Mr. T. W. Gunter were too unwell to attend.

A vote recording regret at the loss of Sir James Hills-Johnes, V.C., G.C.B., one of the vice-presidents, and the death of Mr. B. Acraman, a member of the committee, was passed.

Messrs. E. Boobier, J. E. James (Swansea) and D. H. Williams (Gowerton) sent letters of apology for absence.

The report and balance-sheet was passed, and an interesting discussion on "Isle of Wight" disease ensued. Various remedies were advocated to deal with the disease, which, though less virulent, is still prevalent in the county.

On the proposition of Mr. R. J. Edwards (Lisvane), a vote of thanks was accorded the officers and committee for their services during the past year.

The Right Hon. Earl of Plymouth was re-elected president, Mr. John Jenkins auditor, Mrs. Freeman Gravil treasurer, and W. J. Wiltshire secretary, and a committee elected.

Mr. Freeman Gravil and Mr. D. Hardcastle were re-elected representatives on the B.B.K.A., and Mrs. F. Gravil representative on the Glamorganshire Chamber of Agriculture.

The re-stocking scheme was explained, and circulars H.D.4, C.L.62/H., F.P.430/H., and 431/H. were considered. The Secretary stated that further information was expected shortly from the County War Agricultural Committee.

The Royal Show to be held in Cardiff this year was referred to by the Chairman, who said the Association was pledged to give whatever support lay in its power towards the success of the show.

Mr. C. Spiller initiated a discussion on the management of the Committee, advocating the need of more educational work, and Mr. Hardcastle urged the need of more Committee meetings. Mr. E. Gibbon considered a much smaller Committee advisable, with the formation of two or more local committees.

Mr. R. James and others joined in the discussion.

A vote of thanks was accorded the Chairman, and afterwards the members adjourned to Queen's Café for tea.—W.J.W.

Herefordshire Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of the Herefordshire Bee-keepers' Association was held at Messrs. Jakeman and Carver's, Hereford, on Wednesday, when Mr. W. G. Bankes presided, and among those present were: Mrs. Beakbane, Miss Riley, Mrs. W. G. Bankes, Miss E. Turner, Miss E. Swayne, Rev. H. W. B. Mynors (treasurer), Mrs. T. J. Hawkins, Capt. Paterson, Capt. H. P. Hamilton, Mr. H. Probert, Rev. A. Middleton, Rev. R. P. Dansey, Rev. G. W. Turner, Mr. J. Harris, Mr. P. B. Barneby, Rev. K. O'Neill, Mrs. E. K. Mynors hon. secretary), and Mr. J. Arnfield. The President (Mr. C. T. Pulley, M.P.) wrote regretting his inability to be present.

The Chairman remarked that bee-keeping was an industry which should be taken up more generally than it was, for it cer-

tainly was a healthy occupation, and with proper management should be made a success. The Association had embarked on a re-stocking scheme, with nuclei which was immune from that terrible scourge the "Isle of Wight" disease," and no one interested in bee-keeping need now be afraid of doing a little speculating in the bee line. The Herefordshire Bee-keepers' Society had done very good work, and for this thanks were due in a very large measure to their energetic secretory (Mrs. Mynors), who spared neither time nor trouble in the satisfactory manner in which she discharged her duties. The Association was very fortunate in being able to retain her services. Then, also, with such an excellent president as they had in Mr. C. T. Pulley, and other officials, the Association should have no fear but what success would attend its future.

The Hon. Secretary then read the eighth annual report.

The Treasurer also presented the accounts.

The meeting then proceeded to the election of officers as follows:—President, Mr. C. T. Pulley, M.P.; vice-presidents, Miss M. Coates, Mrs. Drage, Mrs. Arthur Foster, Mrs. Glinn, Mrs. Hazelhurst, Mr. F. R. James, Mrs. Mounsey Heygate, Rev. K. O'Neill, Mrs. Partridge, Mrs. G. Trafford, Mr. Joseph Shaw, and Capt. Hamilton; hon. treasurer, Rev. H. W. B. Mynors; hon. secretary, Mrs. Mynors, Llanwarne Rectory; committee, Mr. J. Arnfield, Mrs. Bankes, Rev. R. P. Dansey, Mr. J. Harris, Rev. T. Lloyd, Rev. K. O'Neill, Mr. J. Porter, Mr. J. W. Stephens, Mr. E. Thomas, Rev. G. W. Turner, Mr. A. S. Wood, Mrs. Clowes, and Mr. H. Morland. Delegates to the British Bee-keepers' Association, Mrs. Clowes and Mrs. Mynors.

The local hon. secretaries were also reappointed, with the addition of Mrs. Bailey (Bodenham), Rev. A. Middleton (Allensmore), Miss Empson (Llangarron), and the Rev. K. O'Neill.

A long discussion took place on the re-stocking scheme. This distribution was begun in the county in 1917, and, thanks to the excellent work done by Mr. Arnfield, some splendid results have been achieved, no less an authority than Mr. W. Herrod-Hempsall testifying to the fact that the best apiary he had seen in the county was that at Breinton. The object was to re-establish bees all over the county, and from stocks that were immune, as far as possible, from the "Isle of Wight" disease.

Mr. Arnfield stated that the re-stocking season of 1918 was started with ten stocks, which had wintered well. From these, 44 nuclei were made and sent out to the subscribers to the scheme during the summer, and 16 stocks were being carried forward for division in 1919, 35 nuclei having been subscribed for already.

It was agreed that the County Council grant of £20 should not be accepted unless it could be offered under more advantageous terms; that this year £60 should be paid for assistance at the apiary; that the 16 stocks in hand should be made into 80 nuclei, and after the distribution of 48 nuclei to subscribers for this year the balance should be sold to cover some of the expenses, retaining sixteen for next year. It was also suggested that those members receiving nuclei who could afford it would considerably help the scheme if they would contribute 20s. in addition to the very small charge which was being made for the bees.

It was stated that those requiring stocks in 1920 should make application at once.

At the close of the business a hive was, as usual, drawn for by the members of the Association, and the winner proved to be Mrs. J. S. Arkwright, Kinsham.

Profit on Bee Candy.

The Board of Agriculture and Fisheries have received from Messrs. James Pascall, Ltd., a cheque for £175 1s. 6d., representing the profits made by them on the sale of bee candy for the period from July 14, 1917, to June 30, 1918, in accordance with their promise to devote the whole of their profits made from this source to any charity the Board might name. The Board have sent the cheque to the Gardeners' Royal Benevolent Institution, who have undertaken to devote it to the relief of a necessitous gardener or gardeners, giving preference to those gardeners who have had connection with bee-keeping.

Messrs. Pascall have also sent the Board a copy of the trading accounts prepared by their auditors in connection with this transaction. These accounts show that the cost of the sugar represents about 80 per cent. of the price of the candy (7d. per pound), the cost of making the candy 10 per cent. (1d. per pound), and the net profit 2 per cent. (about three-fifths of a farthing per pound). The remaining 8 per cent. represents cost of packing, postage, printing, etc.

Board of Agriculture and Fisheries.
Whitehall Place, S.W.1.

Honey Imports.

The value of honey imported into the United Kingdom during the month of January, 1919, was £53,803.—From a return furnished by the Statistical Office, H.M. Customs.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Old Strains of Bees.

[9853] I have five stocks of bees at present. My parents have had this strain for 50 years, worked them in the dome-top skeps, always kept second swarms and one or two old stocks. They have never lost the whole of them all that time. My father made the skeps. He used to cut brambles, split them, get the pith out of them, then sew the straw with them; they would last for ten or twelve years. When the self-binder came into use for harvesting, he used binder twine; they would not last so long, but were less labour in making. I took them over five years ago, and changed over to the frame hive. I had two hives, but since changing over I have had to fight with disease. Foul brood has carried them off each winter, and I have not made much progress. Most of the honey I have taken has been from those that have died out. I suspect the foundation, also the flat top of the frame hive as compared to the dome of the old-pattern skep. I was home on sick-leave last May and June, and found two hives had come through the winter. One had disease bad, so I cleared the bees out, rubbed the inside of hive and floor-board with fresh-burned lime, cut the worst of the brood out of the combs, sprinkled them with lime, and put the bees back and dusted them with lime, so that they were coming out like millers. They improved rapidly after that, gave 30 lb. of surplus honey, and they are now a good stock. The other stock was healthy; their hive had a rubbing of lime as well, but not the bees. They gave me two artificial swarms and 70 lb. of honey, sold at 2s. 6d. per lb. I hope to get four through this winter; I should have increased to 30 by this time but for disease. I have not seen or heard of "Isle of Wight" disease in this district, but there are very few bees kept here now; nearly everyone used to keep them, but the "bound tenant" system killed that industry. Bees should do well here; plenty of white clover, gorse in flower now (December 11, 1918), but no heather. Those that are kept are mostly in boxes. I drove some for a neighbour this autumn in a span-roof box, with a roofing tile and some old sacks on top. When I turned the box up for driving the bees were coming out through crevices all over it, and he assured me that he has had the same strain for 30 years like that. Such is bee-keeping this way. I don't know if this will interest you. I find the JOURNAL very instructive. Mr. Kettle's "yarns" are very interesting, but, unlike Mr. Kettle, I cannot hear the song of the bee. My hearing has gone very poor, and for that reason I wish to increase my stock, as I probably will have to give up my present employment. Wishing you every success.—W. T. D.

Advice Wanted *re* "Isle of Wight" Disease.

[9854] Three stocks were packed away in the autumn for wintering. Some four weeks ago, seeing a drone outside one of them (a Nucleus made rather late), I decided to investigate. On opening the hive I found brood in the combs, but it all turned out to be drone brood, in various stages of development. I found the queen after some difficulty, and administered the final squeeze. She had been hatched out rather late the previous autumn, and the weather being so wet she had failed to meet the drone, and consequently turned out to be a drone-breeder.

The bees I placed on top of the original stock, with a sheet of newspaper between. This I pierced with one or two holes, so that the top lot might ultimately find their way to, and mix with, those in the lower portion.

A very fine morning yesterday, the sun shining hot (January 15) tempted me to examine the remaining two hives. No. 1, put away on about five frames, none too strong, I found had succumbed, partly to "I. of W." disease and partly through shortage of stored honey and syrup. This had been supplemented by two cakes of Bacterol candy, which was not all taken down. This reduced the stocks to one. On opening the last hive I found that the bees had not all gone down through the newspaper, so I lifted them off, placed them on one side, and covered them up. On examining the lower portion I found them fairly strong, so didn't disturb them. Before putting the other bees back again on top I enlarged the hole in the newspaper, and put the bees in position with the clusters over the hole.

By the time I had got them covered up something terrible happened. The bees were coming out of the hive as if "th' owd lad" was after them. Each bee seemed to have one of its wings raised at an angle from the body, and not in its ordinary position, none seemed to be able to fly, and, turn them round as I would.

each seemed to be intent on getting away from the hive as *fast* as it could *walk*, dropping off the alighting board and crawling away up to some three or four yards, there to simply die. Some I lifted back to see if they would enter the hive again, but no, any way but that, with the result that I should think half the bees lay dead in a line (they mostly seemed to take direction towards the sun), handfuls of them. I may say that all the bees were *Flavined* according to instructions in the autumn, a special sprayer being got for the purpose. In the afternoon I decided to change the floor board, and as my hives are the "Cowan Hive," self-made, and interchangeable, this was easily and soon done by getting the floor-board in position in fresh hive, close by, and then lifting *brood box, frames, bees,* and everything and placing them on the floor-board. I noticed that the bodies of all the bees (crawlers) seemed to be considerably larger than normal. Shall be sorry if I lose my last lot, as with bees one can make bees, but with none one cannot create. If some bee-keeper, or the editors, can tell me what more I can do to keep them I shall be glad.—A BEE-KEEPER OF 25 YEARS.

[The trouble was evidently "I. of W." disease, and, so far as we can see, our correspondent can do very little more for the bees at this season. The new floor-board would have been better if it had been treated with a strong solution of disinfectant before putting the bees on it. —EDS.]

Co-Operation or Profiteering?

[9855] In reply to your comments on my letter [9852] in last week's issue of the JOURNAL, it might interest you to know that the nuclei referred to have been purchased early *this month*, and I hold for the price paid a receipt dated February 4. I mentioned the Penna queens, which I know to be expensive, just to give you a ground for comparison with the high prices charged for nuclei headed by *home-bred* Italian queens. To the *big* apiarist such a home-bred queen will not cost more than 5s., and to the moderate breeder not more than 7s. 6d. By this calculation one is not underestimating the value of a nucleus on four frames, headed by a home-bred queen, for 30s., if a corresponding nucleus, headed by a Penna queen, is sold for 35s. There is a difference between commanding the price of the market and taking the opportunity of the scarcity of bees to inflate the prices, irrespective of the real value of the bees. This might serve the pockets of some breeders, but will certainly *not* serve the better interests of bee-keeping.—SPECTATOR.

That Skep.

[9856] I have been very much interested in the replies to my first letter *re* the above, which appeared in your JOURNAL November 7 last. I must say a word or two in the first place to Mr. L. Illingworth (Nov. 14, 9802, p. 374). By his notes I gather that he has a dislike to the skep hive, and I thank him for his advice. I have tried it, both with my own bees and others, and failed. Then he goes on to say that my doing away with the frame hive will not settle the case in question. I should like to ask Mr. Illingworth what will settle it, as this bee disease has never been mastered yet, and the cause has never been proved, nor has there ever been a real cure for it. What are we going to do—lie idle and die in despair? No, this kind of thing will not do for me, as I am a great lover of bees, and I am not going to stand still until I have tried to solve this problem.

From Mr. Winterton's letter in your number December 5 (9814, p. 400) I gather he thinks it strange when I said that the disease breaks out nine times out of ten in the bar-frame hive. So it does, as I have only known one skep to contract the disease up to the present, and I was told that this skep robbed out two bar-frame hives the bees of which had died through the disease. And I should like to ask Mr. Winterton why 90 per cent. of the bar-frame hives in this district have gone under, and yet not one straw skep has shown any signs of the disease up to the present. The whole affair is a mystery to me, and there is something that must be rooted out, and, as I said in my former letter on ths subject, I am going back to the skep, say a year or two, to see if I can find out where the mischief lies, as we bee-keepers here have only the few skepists to rely upon for bees this next season, and the skep is our only salvation.

I have made all my bar-frame hives myself. They are made of the best wood obtainable. Each hive stands on four stout legs, is kept well painted, is damp-proof in every way, and kept perfectly clean, so I know that this is not where the trouble begins. I make all my straw skeps myself, and I give Mr. Illingworth the size of them: they are made of the best clean rye-straw; the inside measurement is 17 in. across and 11 in. deep. A swarm from one of these hives equals any swarm from a frame hive. I say nothing about contracting the bar-frame hive to five or six frames, as Mr. Illingworth suggests. I guess a swarm from either five or six frames would be something to be proud of, so this plan will not do. My skeps are all flat tops, and in the centre of the crown of the hive I sew in a circular piece

of inch wood 10 in. across it, with a 3-in. hole in the centre. This makes a handy place to keep the diary of the hive, and they can be worked just as easy as the bar hive, either for sections or shallow frames, and they are not made like some hives I have seen, which I call "concertina" hives. My straw skeps will carry any weight in reason.

I made a tour round my flocks during the recent mild weather, and I found things bad amongst the bar hives. Fully 90 per cent. have gone, and, as I have said before, not one skep has contracted the disease yet; but we are not out of the wood yet, and I will give a full report of my district as time goes on.

I have read all the queries *re* the skep, and I see some of your correspondents would like to lay the blame on the Government. The Government has no power at all over this malady; we bee-keepers must tackle it ourselves. What does the Government know about bees, only what people tell them? A man who calls himself a bee-man should know better than any Member of Parliament, as I dare say not many of them are bee-keepers. A man who understands bees need not go pulling every hive to pieces to ascertain if anything is wrong. When I go my rounds I choose a suitable day, when all the bees should be at work, and I can tell at a glance if anything is wrong; so can any other man who is a practical bee-man. I visited one apiary during the recent mild weather; the bees were all right and on the wing. I was paying strict attention to one hive, and my friend asked me what was the matter. "What's the matter?" I said. "Come and I will explain." "Not without my veil," he said. Having fixed him up with one, I asked, "Now can you see what is the matter? What do you think of that hive?" "Why," he replied, "it is the best hive I have got." I said, "My good man, there is not a living bee in the hive—only robbers. Fetch me a bit of flour and I will convince you." He brought me a bit in a tin. I gave them a good peppering. I said, "Now do you see?" "Why, this sort of thing has been going on now two days, and I thought they were all right," he exclaimed. Now, this sort of thing is where most of the trouble lies—from ignorant bee-keepers. I am afraid that this man will not have a stock of bees left by the spring approaches. Now I have gone so far, as I know the space in our little JOURNAL is limited, so I here enclose you my subscription, which is only small; but I am anxious to do all I can to make the show at Cardiff a success. Please accept the same, wishing that the show may be a success.—E. J. THOMPSON, Apiary House, Gowdall, Snaith, Yorks.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

20 HIVES, "W.B.C.," "Holborn," etc., nearly new, good condition; also Appliances.—Write, stating wants, to ARTHUR DONKIN, Naunton Beauchamp, Pershore, Worcs. n.28

SECTION RACKS, unused, cover 10 frames; one, 2s. 9d.; two, 5s.; four, 10s.; carriage paid.—FRASER, 13, Manse Road, Markinch. n.29

HONEY, to clear, light, 2s. 4d. lb; medium, 2s. 1d.; in 28-lb. tins. Sample 4d.—ANDREWS, 55, Bright Street, Peterborough. n.30

TWO new Hives, fitted with foundation, also Smoker and Veils, £7.—FOZARD, 12, Bond Street, Birstall, near Leeds. n.31

FOR SALE, two Taylor's No. 2 Hive, 14s. each; three Taylor's No. 3 Hive, 20s. each; two Taylor's No. 6 Hive, 25s. each; 80 lbs. Beeswax, oners; two Goats, due early March, sacrifice £8 the two.—APIARY, Burton Latimer, Northants. n.32

TEN 2¼-lb. and six 1½-lb. tie-down glass jars pure Granulated Honey, 2s. 6d. per lb., carriage paid. Single jars supplied. — G. W. BRANDISH, Ettington, Stratford-on-Avon. n.33

FOR SALE, Arran Chief Seed Potatoes, once grown Scotch, 28 lbs., 3s.; 56 lbs., 6s.; Majestic, only 56 lbs., 12s., carriage forward.—CROWE, The Manse, Merriott, Crewkerne. n.34

WANTED, Second-hand Extractor; state make, condition, and price.—EVANS, Brawdy Vicarage, Penycwm. n.35

WANTED, up to six Stocks, each on seven or eight frames, pure Italian Bees, to be delivered early April.—P. CORNELIUS, Erl Wood, Windlesham, Surrey. n.36

FOR SALE, 150 1-lb. screw-top jars of Light Yorkshire Honey, 39s. per dozen.—EDLINGTON, 268, Newland Avenue, Hull. n.37

WANTED, 30 to 40 Nuclei of Italian Bees, each to be headed by 1919 Italian Queens; delivery on or before first week of June; guaranteed healthy; will pay fair price for good strong nuclei; empties could be returned in bundles if required. Purchase to be completed through office of this Journal.—Communicate early with D. McVEY, York Place, Troon. n.38

HOUSE and Land suitable for Bee Farm wanted, within 40 miles of London; main lines; North or Great Western preferred.—Box 6, BEE JOURNAL Office, 23, Bedford Street, W.C.2. n.39

MR. JOHN RUMBALL, Ayot St. Lawrence Apiary, Welwyn, Herts, under date of February 6, 1919, writes as follows:—"I have nothing but good results to report from the use of Flavine. Several stocks are alive to-day and are wintering on their own stores which threw out thousands of crawlers in the spring of last year. I have always worked for big surpluses, and by 'Skyscraping' methods I have taken 564 lbs. from one stock."—S. H. SMITH. n.40

COMPETENT Hive Maker to take charge, wanted; permanency offered to suitable man.—Letters only to "Hive Maker," B.B.J. Office, 23, Bedford Street, Strand, W.C.2. n.21

WANTED, Simmins' Conqueror Commercial Hive.—DUTCHMAN, Combe Edge, Langley Park, Mill Hill, N.W.7. n.25

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 6d. and 1/- each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

BEES wanted, Stocks and Swarms.—State quantity and price to E. C. R. HOLLOWAY, Burwell, near Cambridge. n.27

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

STRICTLY BUSINESS.—The "Golden" Circular, four pages of testimonials, six packages Flavine, 6d.; "Intensive Bee-keeping," 6d.; a japanned Sprayer, 5s.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. n.41

BEES, on six frames, ready about June, £3; carriage forward; deposit on box 5s.; cash with order.—FRANCIS RAWLE, 130, Victoria Street, Grantham. n.42

FREEMAN BROS. now booking orders for Nuclei and our three branded Italian Queens. Price list on application.—Hillside Apiary, Woodbridge Road, Ipswich. n.43

SALE, refined Cuban Honey; best quality; bulk and bottled. Sample 6d. Offers.—HUNT, Bank Street, Somercotes, Alfreton. n.44

FOR SALE.

A COMPLETE APIARY for Sale, price £40. Will only be sold as a whole; consisting of six Stocks of "Dutch-Italian-English" Bees, all 1918 Queens (believed to have a high resistance to "Isle of Wight" disease).

Eight Special Pattern W.B.C. Hives; all parts interchangeable.

One "Holborn" Hive.

One dozen Shallow Frame Racks, with drawn combs, etc., complete.

A free-wheel, chain-driven Geared Extractor, Uncapping Stand, Honey Can with strainers, etc., and everything necessary for the management of a modern apiary, including tools and "spares."

Full list of apparatus and method of raising this "strain" of bees will be sent on application enclosing stamp, to WILL HAMPTON, The Elms, Williams Lane, Mortlake, Surrey.

JULIAN E. LOCKWOOD (late H. M. Forces.)
APIARIAN & QUEEN-BREEDING SPECIALIST.
NO FANCY PRICES.
Italian & Hybrid fertile queens 10/6 each. Virgin Italian queens 2/6 each
3 frame Nuclei with fertile queen £2 10s.
The above should be booked well in advance of requirements. Queens are reared in my own Apiary from Selected Stock and are not the flimsy Italians imported from the Continent.
RESIST ISLE OF WIGHT DISEASE BY TRYING THESE BEES.
Apiaries visited and inspected in any part of the Country and Touring Work undertaken for County Councils and Bee-keepers' Associations. PRICE LIST POST FREE ON APPLICATION.
THE MODEL APIARY, HUNSTANTON, NORFOLK.

Seasonable Hints.

Since our last notes were written we have had a spell of wintry weather that will have severely tried the stamina of some stocks. In our last hints we pointed out that the bee-keepers' main care during the early months of the year is to make sure that all colonies have plenty of food. Where the warning was neglected stocks will have suffered. The main point is still the food supply, and we make no apology for reiterating and emphasising this. We are afraid some of our readers do not take to heart and remember the hints and warnings we give, for we still hear of colonies being starved to death, although we have in both the JOURNAL and RECORD stated for years past that more colonies are starved to death from February to May than in any other months of the year, and very often the strongest colonies are most in need of food. In all colonies of average strength there will now be brood needing attention and food. As the brood increases, so will the demand upon the stores, but for some time there will be no income except what is supplied by the bee-keeper. If that fails, then sooner or later the bees feel the pinch. The first result will be that the egg-laying activities of the queen will be checked; later, if there is still no food coming in, larvæ will be thrown out, and if the bees do not eventually die of starvation, the colony will receive a severe check, which will be felt later on in the season, and may make the difference between a good or a bad honey harvest. There is now no excuse for allowing bees to go short of stores; sugar is available to all, and the 8 lbs. for each stock should carry the bees on until the early flowers are out.

During the last few days we have had several samples of brown sugar sent, to know if they were suitable for bee food. As we pointed out last week, brown sugar, even if pure cane, is not suitable for bee food, and if given is likely to cause dysentery. White sugar only should be used, either loaf or crystallised. If the retailer says he can't supply it, lay the matter before the local food authority, and insist on being supplied with white cane sugar. We believe that just now there is little, if any, but cane sugar in the country.

It will be seen from our "Notices to Correspondents" column that "Isle of Wight" disease is still very prevalent. Several correspondents ask what they can do both to help stricken colonies and to prevent the disease spreading to others. At this season not much can be done. All food should be medicated, and candy, not syrup, given for another month. If the pink candy is used, warm it until it is possible to mix more medicine with it. If stocks are affected, put in a double dose of medicine. If the candy is made at home, do the same. Floorboards may be taken out, scraped and then treated with a strong solution of disinfectant and water. Dry off the surface moisture and replace the board, with some Apicure and naphthaline on it. Where bees have been suffering from disease, the ground round the hives should be thoroughly sprinkled with quicklime or disinfectant and water.

Bees will shortly be looking out for watering places. One should be provided in a warm, sunny spot, where a supply of water free from disease is always available for them. Contaminated water is one of the most fruitful sources of infection.

If any rearrangement of the hives is necessary, the work should be carried out now without delay, also any other work in preparation for the coming season that can be done. The garden will very soon be claiming time and attention, as well as the bees.

A Dorset Yarn.

It is a long way from Dorset to Queensland, yet a soldier bee-keeper from the Commonwealth seemed to bring that far-off colony into Dorset, so realistic was his description of his home in far-off Australia. Not far from 20 years old, but he had farmed for himself 80 stocks of bees of his own, and looked after 300 stocks for his chum, who had volunteered early in the war. When his chum was killed, he left bees and orchards to the care of his chum's sister and followed the lure of the Army to France. Until the armistice was signed he was with the Australian big gun column: now he is in England for demobilisation from the Army. His photos of large apiaries in Queensland, among the blue-gum trees, were somewhat like the pictures in "A B C and X Y Z of Bee-keeping," by Root.

From his own 80 hives he made £300 in run honey, yet his wholesale price was only 3d. and 4d. per lb. All his hives are built in the Langstroth style, single-walled hives with shallow frames. Extracted honey in bulk is what they farm for out there. He assured me that the honey from the Eucalyptus did not taste of the strong odour of the leaves, but was a delightfully flavoured honey. It was only some dealers in honey that flavoured the bulk with the odour of the leaves for medicinal purposes, but which spoilt the sale of Australian honey, as buyers con-

cluded that all honey from Australia was from the blue-gum, and tasted of the strong flavour of the leaves.

It must be a delightful country. Thirty miles up from Brisbane, in Queensland, some of his photos showed the gigantic gum and wattle trees, with large stocks of bees in the clearings. Large tree-ferns in the woods made them look quite like pictures of the tropics. All the surplus honey, even in that colony, is made in a few weeks, the same as it is in our own land, but they never have the hard frosts that we do. The flowering trees that bees get their food from are plentiful out there, though clover and lucerne are grown for stock, and bees take their toll of their sweetness when in blossom, which is quite a long season out there.

He has applied for leave to visit America to learn something of their methods, and the wonderful yield of honey from the different States. If he should be sent over there by the Commonwealth, he will have seen a good bit of the world in a short time. He has only been away from home about a year, and he wants to be home before winter in Queensland.

Our bees have had a fine time this week; have been away flying high up, and bringing in pollen. The willows are white, but not forward enough for pollen, the huge elms have split their calyx and the blossoms are expanding slowly, but the pollen gathered is of a greeny-white.

Snowdrops and primroses are the most plentiful, with bushes of Laurestinus. To look at our bees, to mark progress, and see them covering all the combs in February makes one assume that there is brood advancing. We are hoping to fill the empty hives again. The Italians and hybrids look the best yet, though some of the blacks are working the most. Plenty of stores in some, the outer bars seem not to have been touched yet on the outside, though they have drawn on the inside, proving that the strips not going over the last bar stops them going over the top for stores in cold weather. One is still learning of them—what they will do and what they will not do. The stocks I bought at Cranbourne are a lively lot of blacks, but short of stores. They have not the heather, as we have, to pile up stores in the brood chamber late in the season. They were on the top of hills, with plenty of wind blowing round them, but they were flying strong when I got there. A shower sent them back home, opportunely for me, as I was able to block up the entrance and well tie the lot with binder twine. They had their first, and last, 12-mile drive. Their late owner had kept bees from boyhood, but his sons were away in the war areas, and illness stopped him from attending to the bees.—J. J. KETTLE.

Donations for Royal Show.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

	£	s.	d.
Amount already acknowledged...	15	9	0
Mr. C. J. Chart	0	5	0
Mr. F. Gravil	0	5	0
Mr. A. Donnin	0	5	0
Mrs. M. Corbett	0	2	6
Mr. W. Winterton	0	2	6
Mr. H. S. Shaw	0	2	6
A Beginner	0	2	0
	£16	13	6

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, February 20, 1919.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. T. Bevan, W. H. Simms, G. S. Faunch, J. Smallwood, G. R. Alder, J. B. Lamb, J. Herrod-Hempsall; Association representatives, Colonel H. F. Jolly (Somerset) and E. Ff. Ball (Bucks).

Letters of regret at inability to attend were read from Messrs. T. W. Cowan, A. G. Pugh, G. Thomas, W. Sanderson, F. W. Harper, and C. L. M. Eales.

The minutes of the Council meeting held on January 16, 1919, were read and confirmed.

The following new members were elected: Mrs. C. C. Kilburn, Mrs. G. Warren-Davis, Mrs. F. Fletcher, Mrs. Johnstone, O.B.E., Miss M. A. Pascoe, Miss M. Darrington, Miss D. Y. Knowles, Miss Blair, Rev. A. H. Halley, Messrs. L. Smith, A. D. Pink, F. G. Walkinson, A. Colborn, F. A. Secrett, W. Poupart, E. G. Waldock, A. Donkin, C. Runge, L. E. Turner, J. Welch, W. Griffiths, N. Burgess, R. E. St. Barbe Baker, T. Theobald, E. Dowse, and J. Graham.

The following Associations nominated delegates, and all were accepted: R. R. Babbage (Middlesex), E. E. Scholefield (Devon), Colonel H. F. Jolly (Somerset),

Mrs. Clowes (Hereford), F. Gravel (Glamorganshire).

The report of the Finance Committee was presented by Mr. J. Smallwood, who stated that payments into the bank for January amounted to £36 2s. 9d. The balance at the bank on February 1 was £125 19s. 6d.

The report and balance sheet for 1919 was presented, discussed, and passed.

The report of the Exhibitions Committee was presented and passed.

The final examination was fixed for May 30 and 31.

A vote of sympathy with the secretary was passed, the Council hoping he would soon be restored to health.

Next meeting of the Council, March 20, at the Central Hall, Westminster.

Questions, etc., for Bee-keepers for Self-Examination.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

277. Where in the hive does the queen commence to lay in the spring?

278. Describe the make and use of a super-clearer.

279. How and when should a hived swarm be fed? Give also particulars as to preparation of the food, quantity to be given, and time during which feeding should be continued.

280. Compare, generally, hives used in this country with those used in the United States and in Australia.

281. What would be the effect of providing a bee-space immediately over a rack of sections?

282. How might honey be identified as having been derived from horse-chestnut, heather, ivy, hawthorn, blackberry, privet, and lime respectively?

283. Does the name *bacillus larvæ* signify a particular form of foul brood? If so, which?

284. What is stated to be the approximate weight of food consumed in a hive in each of the months from November to April?

285. What plan can be adopted to ensure that all the honey from a honey-flow shall from the beginning be carried into the supers?

286. What chemical change occurs when cane sugar is altered to invert (or grape) sugar, and what are the several ways by which the change can be effected?

287. State the arguments in favour of and against the practice of clipping queens' wings.

288. Give minutely the life-history (or life-cycle) of *Nosema apis*.

J. L. B.

Notes on "Isle of Wight" Disease.—VII.

THE GREAT OBJECT OF LIFE.

"Home in one form or another is the great object of life."—J. G. Holland.

The pronounced affection of the honey-bee for her home, and her extreme devotion to its interests and the interests of its occupants, are well-known examples of patriotism and noble self-sacrifice. She would spend nearly all her life toiling for her beloved home and society, whether within its walls or in the open. She would closely associate herself with her sisters, whether healthy or sick, so long as they appear normal to her; and she would not desert her home unless obliged, principally for the high interests of her community. A close study of the habits of the honey-bee will readily impress one with the great influence of this home on her life. It is certainly her great object of life, and it is decidedly a leading factor in building her health.

Under natural conditions, a community of bees will endeavour to make their selected home as protective as possible, depending on wax and propolis as effective media of insulation. Unless such a home is in an exposed or in an unfavourable situation, the colony will generally succeed in rendering it suitable for their requirements. The disadvantages of such a natural hive, so far as health and sickness are concerned, will not reveal themselves until disease happens to be introduced. Then the bees will be generally unable to rescue themselves; nor can they be helped by any friend without the virtual destruction of their home. In the modern movable frame hive we have, on the other hand, a contrast case. In this modern home the bees are prohibited from additionally insulating themselves, by their own devices, from harmful atmospheric conditions, and it is left in the hands of their keeper to increase or diminish their protection according to his experience and knowledge; yet should they become sick their friend keeper can render his best service to them, and should he be logical and careful, he could make use of a good modern hive as a real helpful factor in the prevention and treatment of disease. A hygienic and protective hive is no small aid in safeguarding the colony against the very harmful influences of cold and dampness, the faithful servants of ill-health, whether associated with infection or otherwise.

Since the modern apiarist bears the responsibility of adequately protecting his bees from harmful atmospheric conditions, which are closely associated with the incidence of sickness, it would pay

him to self-examine his methods with an open mind, and to always endeavour to improve them. In previous issues of the JOURNAL, I have repeatedly referred to the advisability of in-door wintering, and failing this, to the advisability of a more protective and a more hygienic hive than commonly employed. For the big apiarist the most economical plan would be a sheltered winter apiary with simple hygienic hives as previously suggested. I shall not be the last to put such an idea into practice, should I interest myself in bee culture on a large scale, and should I possess the necessary means. For those who cannot afford a sheltered winter apiary, there is no excuse in not possessing more protective hives with hygienic detachable floorboards, though not necessarily so elaborate as illustrated in one of my previous articles. The additional cost would be a justifiable as well as a profitable investment.

The management of a winter apiary, the construction for it of suitable economic hives, the transference of colonies from the summer apiary to their winter residence, and allied questions, are not subjects for my comments here, as such comments are not needed for the big apiarian qualified for the task. On the other hand, some remarks on outdoor protective hives are necessary for moderate bee-keepers, who are so far in the habit of utilising hives which cannot be considered protective. The comparatively high price of good hives is often given as an excuse for using less advantageous ones; but there is a great difference between the *compulsory temporary* selection of a cheap hive, owing to financial circumstances, and between the *deliberate final* selection of such a hive, from a motive of false economy. The creation of good hives at a comparatively high price cannot adversely affect the advancement of bee culture. On the contrary, it is the unhealthy rivalry for the production of cheap unprotective hives which is likely to be crippling to the progress of the industry, especially when we appreciate the value of a protective home in the prevention of sickness.

Apart from the necessity of a modern insulating and hygienic hive for successful wintering and the prevention of ill-health, and apart from the greater preference of indoor protection as previously suggested (combined with correct shading and regular judicious warming, in order to safeguard both against excitement and premature flights, as well as against the creation of a vicious circle of metabolic poisoning), apart from these considerations, there is need for drawing attention to an undesirable practice which is both unhygienic and unreasonable, under normal conditions. With some colonies it may, indeed, prove as fatal as "Isle of Wight" disease, although in part it is intended to prevent it. I am referring to the use of medicated candy placed under the quilts. Contrary to the usual teaching in recognised manuals, I find that bees will direct their attention to the candy only so long as the outside temperature is comparatively high. They then engage themselves in dissolving the candy and storing it in their combs. Directly frosty weather sets in, they usually desert the candy and cluster on their combs, depending on previously stored food. It follows, therefore, that candy placed under the quilts, in the absence of stores in the combs, and in the presence of severe frost, will not necessarily save the colony from starvation. I base this statement on some investigations which I have conducted during last December and January. Should such candy be left in the hive unconsumed for a long time especially if not properly manufactured, it would likely contribute to the death of no few bees, or even to the extinction of the whole colony, through attracting moisture and becoming partly transformed into syrup dripping over the cluster. When the present exceptional circumstances are over, such an unhygienic practice should be strongly condemned. In the absence of sufficient natural stores, the bees should be artificially fed on suitable medicated food sufficiently early in the fall to allow them to place their larder in good order before the incidence of unfavourable weather.

In these rough and concise notes on the important subject of "Isle of Wight" bee disease, I am refraining from examining in detail the various questions involved, considering the available space at my disposal. My purpose is simply to emphasise, though not necessarily in any special order, certain important points which hitherto have not received sufficient attention collectively; and even individually, some of which have not gained proper, or any, consideration. Therefore, although I have to re-discuss the hygiene of the hive in future notes, my brief notes must not be considered other than fragmentary. For the same reason, it should be clearly understood that any methods or means that I may refer to have already received my careful examination for the purpose of appreciating their advantages and disadvantages and the ways of their employment. My conviction that their advantages *far outweigh* their disadvantages alone leads me to their exposition; and since it is not my

purpose here to give full description of such methods and means, I am not excluding in advance any possible criticisms which I shall be happy to reply to independently.* A. Z. ABUSHADY.

* The previous article appeared in the B.B.J. for February 13, in which the following misprints occurred:—p. 49, c. 1, l. 16, the word "illustrates" should be read "illustrate." In the same page and column, l. 23, and l. 36, the words "area" and "imparted" should be read "radiator" and "inserted."

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

The Bee Diseases Bill.

[9857] Contrary to the impression gained from the Press, I learn from private sources that the petition by the B.B.K.A. for legislative control is not accompanied by any concurrent movement in Government circles. In other words, no official draft of a new Bee Diseases Bill has yet been made. Under the circumstances, it may be premature to convene a *large* representative conference for the special purpose of examining the proposition, unless the B.B.K.A. supplies for discussion a preliminary draft of a Bill, as no such draft could be expected from those who entirely oppose the principle of legislation; and as to others who do not oppose the principle of legislation but merely want sufficient safeguards against party rule, they would naturally expect the Association to accompany their petition by a proposed scheme, which might be profitably discussed and amended before presentation to the Government.

It should *not* be inferred from the above remarks that preliminary conferences for this purpose are therefore unnecessary. On the contrary, this appears to me to be the only effective course to follow by the advocates of the scheme for securing more supporters, and for creating a higher spirit of professional or fraternal unity. The frequent interchange of views amongst bee-keepers, of various parties and districts through the media of clubs, special meetings, and representative conferences, is a most desirable practice for diverting their energies to the goal of progress instead of party strife, and for establishing a healthy feeling of comradeship. But for the sole purpose of thoroughly discussing the proposed Bill with view of improving it by amendments, which will secure greater support from bee-keepers, some definite form of the proposed scheme should be in existence beforehand. There is no advantage in further delay. — A. Z. ABUSHADY.

[The resolution at the head of the petition states clearly that it is for the purpose of impressing upon the Government "the urgent necessity of taking legislative measures to prevent the extension of such diseases," that is bee diseases. There is, therefore, no "Bill" to oppose.—EDS.]

Making Nuclei.

[9858] The articles in the B.B.J. on American methods of bee-keeping are very interesting and instructive. I think it would be wise, however, for the sake of novices, to explain that the frames used there are larger than the British standard frame.

In Dr. Miller's method of working for increase, I should have thought the procedure with regard to the colony 235 would have caused fighting between the flying bees and the young bees taken with the combs of brood from 237. I have been a bee-keeper six years, and have increased gradually to 12 stocks. Fortunately, there has been no disease in my apiary, so far as I know. Neighbouring bee-keepers lose one or more stocks every winter. I have never lost one yet, and all seemed to be brood-rearing when I examined their cakes of candy last week, judging from the warmth under the quilts. I keep them in W.B.C. hives, with plenty of quilts on and a cushion stuffed with hay on each, as I have no chaff.

The advice given in B.B.J. is very helpful, and I am always disappointed when I fail to get my copy.—K. KENDALL.

[We have not personally tried Dr. Miller's plan, but as neither he nor the bee-keeper mentioned said anything of trouble from fighting, you may take it there is none.—EDS.]

How Disease is Perpetuated.

[9859] I have been much interested in the discussions that are going on in your columns *re* checking the great handicap to modern bee-keeping — "Isle of Wight" disease.

The following is a case which came under my notice in the latter part of last year.

While staying away with friends, I found that bees had always been inhabitants of their garden, and much honey

had been furnished by them for table use. No member of the household really understood them, however, therefore the local "bee-man" was chartered from time to time to take the honey from the hives, supply new stocks, or attend to anything needed. But the tale of late years had been "supplying new stocks and taking very little honey." I inquired the reason, and was told, in that rather hopeless tone of voice, that the bees kept getting "Isle of Wight" disease, which seemed to imply that they probably always would.

"But," I argued, "if your hives are properly disinfected after one lot has died, I do not see why every fresh lot should develop it."

Finally, my inquiries unearthed the truth — bees had inhabited the village church tower for—who knows how long? And the "church bees" had contracted the disease.

What a menace to the neighbourhood! Who could be encouraged to start bee-keeping with such a source of infection at hand? I am an amateur, and if I lived in that locality hardly know what steps should be taken, but if any experienced bee-keeper could suggest a good way of dealing with such a case, I could pass the suggestion on to my friend, who is the Rector of the church mentioned. The difficulty is that the part of the tower inhabited by the bees is so high up as to be rather impossible to get at. Surely a case like this, that can go on year after year uncombated, strongly upholds the suggestion of Government control.—L. M. Lea Wilson.

Wintering Bees.

[9860] Dr. Abushady, in the Journal of Feb. 13, gives notes of a winter-house apiary which are interesting. He, however, makes no mention of the cost. Perhaps he may think it worth while to do so. It would be very interesting to learn approximately what the cost would be to-day of a shed for 100 stocks of bees.

As to the hive he recommends, I cannot see the advantages of the dead air space at the sides. When one bears in mind that heat always rises, and that in this hive no provision is made for a non-conducting space, either below the brood chamber or above it, it seems to me that the dead air spaces at the sides will have very little effect on the well-being of the stock of bees. As to the porch, it is obvious to any one who has had any experience of wintering bees in the open that a sliding division, as illustrated on page 50, would probably stick in nine cases out of ten, just when it was required to be moved, and in operating it, more harm than good would be done by jarring.

The roof is, in my judgment, just about the worst that could possibly be constructed. I have used all kinds, I may say, and those backward sloping roofs with little fall have always been a nuisance to me.

No, Sir, give me for successful wintering a strong stock of bees on large frames in a W.B.C. hive, in a brood chamber raised on an empty shallow comb super, with free air space all round, and the wrappers not touching the outer walls, so that there is a free circulation of air all round, and a gabled roof with plenty of pitch, and just enough porch to prevent splashing on to the flat part of the floor board.—Rob. B. Manley.

Weather Report.

Westbourne, January, 1919.

Rainfall, 5·93 in.
Heaviest fall, ·97 in. on 10th.
Rain fell on 24 days.
Above average, 3·45in.
Sunshine, 34·8 hrs.
Brightest day, 17th and 18th, 4·2 hours.
Sunless days, 12.
Below average, 24·8 hours.
Maximum temperature, 51 on 14th.
Minimum temperature, 23 on 25th.
Minimum on grass, 21 on 25th.
Frosty nights, 16.
Mean maximum, 43·5.
Mean minimum, 33·3.
Mean temperature, 38·4
Above average, 0·1
Maximum barometer, 30·674 on 24th.
Minimum barometer, 28·689 on 5th.

L. B. Birkett.

W. R. J. (Cornwall).—*Moving and working skep.*—(1) You may safely move the skep any time now. (2) The stand should be from 8 to 12 in. from the ground. The floor of the hive should be of wood. It may be supported on anything you may find it convenient to use. Three or four stakes driven into the ground make a firm stand. (3) It is quite feasible to get swarms from the skep to place in wooden hives. (4) Better make artificial swarms, and so make fairly certain the bees do not decamp. To do this, remove the skep to a new stand when it is becoming crowded with bees, and in its place put a frame hive fitted with frames of foundation. If you had a comb of brood to put in, it would be an advantage. Drive the bees out of the skep until the queen can be secured. Put her and about a pint of bees into the frame hive. They will be joined by all the field bees from the skep and form the swarm. The bees left in the skep will rear another queen, and later on the operation may be repeated. The operation should be carried out on a warm day when bees are flying freely, and the swarms should be fed for a week or more, according to the weather.

A. C. Wicks (Whitchurch).—*Using honey after bees have been killed with potassium cyanide.*—There will be a risk in using the honey. Potassium cyanide is a deadly poison, and we would not use honey that had possibly been in contact with it.

"NOVICE" (Isle of Wight).—*Can queen pass through Porter bee escape?*—It is quite possible for a queen to get through. Whether she would pass through or not we cannot say. (2) The bees are hybrids, and it is not an unusual thing for them to be vicious. A little tobacco among the smoker fuel sometimes has a good effect, but it must be mild, used with care, and not overdone. About as much as is contained in an ordinary cigarette is sufficient in each smoker cartridge. Do not use tobacco paper made for fumigating purposes, as it is far too strong.

L. H. (Preston).—*Making nucleus.*—A nucleus made up with two combs at end of May would build up for winter if given proper attention. We should prefer two combs each with brood on one side only, and should place them so this was in the centre. Shake the bees from another two combs into the nucleus, so there is a good force of young bees that will remain in it.

"TRURO" (Cornwall).—*Best time for making nuclei.*—(1) Any time from early in May.

Quantity of sugar needed to make driven bees safe for winter.—(2) We cannot say, as it will depend on circumstances, but they should be fed until they have not less than 25 lbs. of stores in the combs. (3) The candy should be given as it is for another month. After that make it into syrup.

Brood combs built together.—(4) There are several methods of remedying this. The quickest will be to cut out as many frames not covered by bees as possible, using a carving knife for the purpose. Close the rest up with a division board, and soon as the bees need more room stand the box over another one fitted with frames of foundation. Make the bottom frames not covered by those in the upper box secure, so that bees cannot get into the empty space between the division board and side of box. When the queen has taken possession of the lower combs and they contain eggs and larvæ, make certain she is on them, and place a queen excluder between the two boxes. All the worker brood in the top combs will have emerged in 22 days, and it may then be cleared of bees and removed.

"NOVICE" (Upminster).—*Insurance against risk of damage to third parties.*—You can do this with the British Bee-keepers' Association. See advt. The white granulated sugar will be quite safe for bee food.

T. W. S. (Oxon), H. G. B. (Sussex).—*Sugar samples.*—The sugar was no doubt cane, but was *brown*. This is *not* suitable for bee food. *White* sugar only should be used. If your retailer cannot supply this, put the matter before your local food authority.

R. C. BUNN (Evesham).—*Bees collecting grease from bands on trees for propolis.*—Bees will use various materials, such as paint, varnish, etc., for propolis, but we do not recollect having heard that they will collect grease for this purpose. Grease banding fruit trees is practised more or less in all districts, and will have no effect whatever on "I.O.W." disease. We cannot say if it is done in Holland; probably it is where fruit is grown. Dutch bees are subject to "I.O.W." disease in England, but are a little more resistant than natives.

"NEMO" (N.B.).—There is "I.O.W." disease in Ireland, in some districts rather badly. An advt. in the B.B.J. would bring you replies

MRS. MACDONALD (Kent).—Get a text book on bee-keeping. "Bee-keeping Simplified," post free for 1s. 1½d. from this office, will give you enough information to enable you to make a start. If you have thoroughly disinfected the hives they will be quite safe to use again. Better join the Kent B.K.A.; secretary, Mr. G. W. Judge, Barrowdene, Shepherds Lane, Dartford.

"YORKS" (Acomb).—The address is Signor E. Penna, Bologna, Italy.

"CRANWELL" (Lincs.).—The bee was a hybrid; native, with just a trace of Italian.

R. T. (Midlothian).—We are sorry the scheme does not apply to Scotland, but only to England and Wales. You will have to wake up your own Board of Agriculture.

Suspected Disease.

"JOAN" (Wales).—We are sorry we are unable to say what was the cause of death. The symptoms you describe point to "I.O.W." disease.

H. W. KAVE (Essex), G. D. GREEN (Pothill), MISS H. B. COWPER (Cheshire), D. PRICE (Talycafn), McC. H. (Kent), W. ROBERTS (Permadino), W. WISKIN (Wisbech), "ANXIOUS" (Retford), M. M. NICHOLSON (Ulverston).—The bees had died from "I.O.W." disease.

W. H. P. (S. Wales).—Cause of death was "I.O.W." disease. No need to destroy the hive: it can be disinfected.

MRS. POWYS-LYBBE (London).—It was "I.O.W." disease. Better burn the dead bees and contents of the hive. The hive can be disinfected.

H. G. BAKER (Yorks.).—The cause of death was "I.O.W." disease. (*a*) Yes. (*b*) We should say so, but there is always an element of risk with combs.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* "**Business**" *Announcements*, immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3*s. per* ½*in., or* 5*s. per inch.*

PRIVATE ADVERTISEMENTS are only inserted for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

MR. SAMUEL STOCKER, 143, Bedford Road, Birkdale, Southport, writes as follows:—"I am pleased to say my bees are in grand condition, thanks to Flavine, and I am looking forward with joy to a busy spring. The stock which turned out hundreds of crawlers last autumn, when I wrote you last, recovered after spraying with Flavine. I find it most effectual."—S. H. SMITH n.61

WANTED, Healthy Stocks of Bees and Appliances. — W. SMITH, Hook Farm, Aldingbourne, Chichester. n.15

CAN accept orders for a few May and June Swarms.—A. W. DENNY, Godstone, Surrey. n.45

SEVERAL Dutch Stocks, £4; May Swarms, 30s. Stamp for reply.—"FREDA," Lulton Rectory, Oundle. n.46

EXCELLENT Light Cambridgeshire Honey. 14-lb. tins, 2s. 6d. lb. Crate returnable.—SMYTH, Coldharbour, Ashwell, Herts. n.47

B.B.J., 1912 to 1916 (some numbers missing). First offer accepted.—Box 7, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. n.50

WANTED, eight Stocks pure Italians, 1918 Queens, guaranteed free from disease, on seven or more frames, to be delivered in April.—ASHWORTH, Heytesbury, Wilts. B.B.J. deposit system n.48

WANTED, by the Notts. Bee-keepers' Association, Expert, male or female, for season 1919. State qualifications and salary required to GEO. HAYES, Secretary, Mona Street, Beeston. n.49

WANTED, one Stock pure Italian Bees, on seven or eight frames, to be delivered early April; guaranteed healthy.—G. BROCKLEHURST, Sudeley, Winchcombe, Glos. n.51

WANTED, Nuclei, with Italian Queens, early May.—Particulars to SAMUEL FISHER, Melton Constable, Norfolk. n.52

FEW Swarms and Nuclei for Sale, from disease-resisting stocks, booked now for early delivery. Stamped envelope for reply. CHEESMUR, Whiteley Hill, Worth, Sussex. n.53

QUEEN REARING, Swarthmore plan.—Complete Outfit, comprising frame, cell bar, cages, caps and directions, 7s. 6d.—MOSS, 54, London Road, Hinckley. n.54

WANTED, March or early April, old Italian Queens, at least two seasons; one which has withstood "Isle of Wight" disease.—NOYES, Park Street, Minehead. n.55

WANTED, May or June, two Stocks, or strong Nuclei, Italian Bees, 1918 Queen, guaranteed free from disease. Write, stating price, to MISS SHAW, Kentchurch Court, Hereford. n.56

120 LBS. excellent, but fermenting, Honey for Sale. Wanted, large Honey Ripener, with strainer and tap, in good condition.—WYATT, Bishopswood, Chard. n.57

APRIL, or early May, Stock pure Italians, guaranteed, young queen and strong swarm. Quote lowest price, with or without hive.—Box 8, B.B.J. Office, 23, Bedford Street, W.C.2. n.58

HOUSE and Land suitable for Bee Farm wanted, within 40 miles of London; main lines; North or Great Western preferred.—Box 6, BEE JOURNAL Office, 23, Bedford Street, W.C.2. n.59

COMPETENT Hive Maker to take charge, wanted; permanency offered to suitable man.—Letters only to "Hive Maker," B.B.J. Office, 23, Bedford Street, Strand, W.C.2. n.21

WANTED, Simmins' Conqueror Commercial Hive.—DUTCHMAN, Combe Edge, Langley Park, Mill Hill, N.W.7. n.25

BEES wanted, Stocks and Swarms.—State quantity and price to E. C. R. HOLLOWAY, Burwell, near Cambridge. n.27

BUSINESS ADVERTISEMENTS.

1½d. per word.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

FREEMAN BROS. now booking orders for Nuclei and our three banded Italian Queens. Price list on application.—Hillside Apiary, Woodbridge Road, Ipswich. n.43

ITALIAN QUEENS. — Booking now; early delivery. Supply limited.—GLAN APIARY, Pontardulais. n.39

3-FRAME NUCLEI, Italian and Hybrid Queens. No "I.O.W." here. Send stamp for list.—CRAWFORD, Apiaries, Castlederg, Co. Tyrone. n.60

STRICTLY BUSINESS.—"Intensive Bee-keeping," 6d.; 5 lbs. Flavine Candy, 5s. 1d.; a Japanned Sprayer, 5s. All the above 10s., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. n.62

PLUVEX FELT for Hive Roofs!—As good as zinc, one-sixth the cost; ready for fixing; no tarring required; only large-headed tacks and a hammer. Rolls, 12 yards by 1 yard, 10s. 6d.; enough for 16 W.B.C. roofs. Sample piece for one large roof, 1s. 6d., post free.

QUILTS! QUILTS!!—Warmth is more necessary now than at any time of the year. Hair-felt quilts, 18 in. square, 3 for 2s., 6 for 3s. 6d., 12 for 6s. 6d., post free. Best value anywhere.—CLARIDGE, Copford, Colchester. n.63

ITALIAN QUEENS AND NUCLEI.

OWING to the extreme difficulty of securing an adequate supply of Queens direct from Italy, I am making arrangements for rearing a considerable number from selected stock of proved merit, obtained from the World's Best Breeders.

Prices:—Virgins, 10s. 6d. each, four for 40s.; Fertiles, 15s. each; Tested Fertiles (recommended only in a Necleus), 21s. each. Safe delivery guaranteed. Nuclei (supplied only with Tested Fertile Queen): 1 frame, 35s.; 2 frames, 50s.; 3 frames, £3 3s.; carriage paid.

CLARIDGE, Copford Apiary, Colchester.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

THE
British Bee-Keepers' Association
Insure *now* against loss by damage done through bee stings. All particulars from
W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

IN WAR-TIME

The Nation's Food is of prime importance. The products of the Apiary, of Poultry and Farm Stock, of the Fruit and Vegetable Garden can be augmented. Buy your stock, sell the produce, through
THE BAZAAR, EXCHANGE & MART
Newspaper.
Get a Copy—Thursday and Saturday, 3d.
The "Bazaar" publishes also practical handbooks by experts. Send for full catalogue,
———post free from———
WINDSOR HOUSE, Breams Buildings, LONDON, E.C.2

The certain cure for and Preventative of "Isle of Wight" disease. **'BACTEROL'** Proved by Bee-keepers generally after testing on the most hopeless stocks.
Manufactured by "Bacterol" Limited, London, N.
MENLEY & JAMES, LTD., MENLEY HOUSE, FARRINGDON ROAD LONDON, E.C. 1

Sending Cash by Post.

Many of our correspondents when sending cash for subscription, books, etc., are adopting the risky policy of sending Treasury notes in an ordinary envelope without registering it. On the whole, the Post Office staff are quite honest, but "There are black sheep in every flock," and there are some persons in the postal service who are ever on the lookout for a chance to turn a dishonest penny—or a pound; and we have heard that some of them have a keen "nose" for a letter containing cash. Already several such letters posted to us and not registered have failed to arrive. We trust that after this warning no one will send Treasury notes without registering the letter.

British Bee-Keepers' Association.

The report in our last issue of Council meeting held on February 20 omitted to mention that owing to Mr. W. F. Reid being unavoidably detained at another important meeting, Mr. G. Bryden was unanimously voted to the chair, which he vacated in favour of Mr. Reid on his arrival a little later.

A Dorset Yarn.

Bees are coming into their own again. Every week visitors and letters tell us of the great interest taken in them; many of the letters are from those new to the craft, and others who have some trouble with their bees. The visitors are of both sexes, but all are full of enthusiasm for bees. Our paper ought to be still further in demand this year. I am glad that the reports of District Associations gave an additional sheet to the JOURNAL—more reading matter for us who have the love of bees at heart.

The Somerset Association seem to be the most businesslike in method: co-operative lines for restocking, in 20s. shares for nuclei, in rotation, from the stocks purchased by the Food Production Department for the Association. 50s. a stock is an easy price as times are. (I paid 100s. each stock last week.) I consider them an absolute necessity on the farm for the fruit; taking up shares for them seems to be carrying out the teaching of the old Book, "Bear ye one another's burdens." Those who do not want more stocks can take up shares in the co-operative company and help those to get them that have lost their bees; then every village shall be once more a "land of milk and honey." Those who have followed the co-operative movement in Ireland will see what a great lever it has been in the improvement of that country. In England it is being followed in most counties to-day. Co-operative milk producers, co-operative growers of vegetables; why not co-operative bee-keepers in every district in the United Kingdom? Then we should be a power in the land. If we wanted legislation we should get it; Governments only take notice of votes. It is numbers that count. All farmers are alive to that just now; all are amalgamated into one great Union, where all were before individualists. When the great show comes at Cardiff, if we were all co-operators what a great front we could make in exhibits, instead of leaving it to a few enthusiasts to do it on their own. The last good exhibit of honey I saw was at the Agricultural Hall, Islington, at one of the Dairy Shows a few years back, but even that was puny beside the exhibits of America (as shown in the American books on bees).

My friend Mr. Bulson, of Wimborne, who is so successful with his Italians, tells me that his are going strong. They are not so yellow as some I have seen, neither are they so large, but they are a very gentle lot. When we saw them on Friday, February 28, they were at work as freely as in May; pollen was being carried in, orange and yellow (I assume it was crocus). Snowdrops in this area are a sight to see; they are spreading over the graves in the cemetery—at least all the old ones. Mr. Bulson is to take charge of the East Dorset County Apiary, which the C.C. are starting in each of the divisions of Dorset, so that all can have bees again who have lost their stocks. It is proposed to form a small company in 20s. shares throughout the country; they propose purchasing Dutch-Italians, in order to get the young stocks for distribution. Mr. Jeffs, the small-holding surveyor, and Mr. MacPhail, the horticultural instructor, came to Wimborne to float the scheme. It is hoped to start an association of bee-keepers this year in East Dorset. In our area there are more bee-keepers than in any other division of the county. A plot of land will be rented by the County Council as a county apiary, where all can go and see the bees, and each will get his nucleus in rotation. I feel it will be a stimulus to bee-keeping amongst our Dorset people. If enough capital is forthcoming it would be wiser to purchase a few stocks on bar-frames that are known to be free from disease (not to wait for Government stocks in

skeps from Holland), because then each could be divided into three or four lots in May and early June, and the shareholders would the sooner get their nuclei for a start, and with a good queen to quickly populate the hive. When the honey flow is heavy they would get plenty of stores, and possibly a surplus.—J. J. KETTLE.

The Romance of the Honey Section.

D. M. MACDONALD.

First let us imagine we are in one of the large American forests covering thousands of acres. In one centre a large proportion of the trees are basswood, a near relation of our linden, or lime tree, the flowers of which are, at times, one of the most bountiful sources of nectar, here and on the other side. These trees are cut down in their thousands, and hundreds of cars of this "lumber" railed to the various supply dealers' "yards" to be made up into hives and appliances. Several of these yards have been of almost mushroom growth, and so great has been the demand, that the easily available raw material is getting scarce in many parts; consequently prices have risen very considerably during the past few years. Fortunately, honey has advanced in price, and, owing to improved machinery, the percentage of rise is less than it otherwise would have been. I was so much taken with a description from an American source of the manufacture of sections, that I think it worth passing on in a condensed form to our readers. Every board is planed to fit a gauge, and is 29.32 of an inch after coming from the planer. Motor-driven mandrils now plane each edge above and below, and cut each strip into five parts. There are seventy-five saws on each machine. The strips are then run through a sander to polish both sides, and cut into 17-inch lengths for sections. At this stage the pieces are sorted by hand into grades, for no machine has yet been perfected which will sort out the off-coloured pieces. After, these are clamped into bundles of 100, and the various cuts necessary to make them into finished sections are made quicker than it can be told. The dovetails are cut at the ends by rapid saws, the V-grooves by a scoring machine, and the leeways by rabbets. These machines have an automatic feed, and the machine counts them also, ringing a bell for every 500 finished sections! It would be almost impossible to make good sections by hand, and one machine turns out 64,000 every ten hours. Three men attend to the machine, one to supply it with lumber, one to fill the crates, and the third to nail the crates ready for shipment. These three do the work of 100 men. Machinery does all the labour of manufacture, and in so wonderful a way that they may be said to *create* the finished article. The cost of the machine is about $10,000. These facts have been recently supplied by Mr. Frank Pellett, the new Editor of the American *Bee Journal*.

A further stage in the creation of the perfect article follows. The individual section, as it reaches us in this country, is a pleasing object, well worthy of admiration. How a bee-keeper enjoys seeing a 500 or a 1,000 case opened, how he admires the almost snow-white purity of the basswood, while the utter want of knots or other blemishes adds to the perfection of every single section. Then as, one by one, they are folded into exact squares, what a pleasure it is to find that, on account of the true and exact dovetailing, they retain that form—the machine-cut joinings being so perfect. The V-cuts are also so nearly perfect that they fit like a glove, therefore there should be no bias or leaning off from the perpendicular. The best machines, when the rabbets are kept in perfect order, leave the bee-ways smooth and polished, and well fitted for their purpose. Then, when the full sheet of super-foundation is fitted into the bevelled cut on top, or fixed in with liquid wax, hanging straight down, the beauty of the receptacle is still further enhanced. A section thus filled and fitted to go into the rack is indeed "a thing of beauty."

Twenty-one of these sections placed in a rack make a beekeeper of the present day happy, and, if true-hearted, he should lift up his mind in thankfulness to those who have gone before us, for having persistently toiled and experimented, in order that we, their successors, might have so wonderfully finished a receptacle for our surplus honey. The orthodox $12\frac{3}{4}$ in. breadth in the rack just allows the three sections, each $4\frac{1}{4}$ by $4\frac{1}{4}$, placed across, to fit in true, the appropriate dividers of wood, or tin, between each of the seven rows, completing the full rack keep the bees working exactly to scale, and the arrangement saves us from the unmarketable, because unpackable, sections so very common in the olden time. The latter-day ones are practically perfect. Then, by the use of the follower and springs, propolis on sections is almost a thing of the past, the wood coming out at the end of the season about as snow white as when it went in. With the bare bee space between each rack, brace and burr-combs, with the con-

sequent bleeding honey, should be unknown. Each point makes towards the perfection we desiderate.

In describing the finished empty shell of the true section, I have used the words almost perfect; when seen in the completed rack placed on the hive to be filled they may be described as nearly perfect. Greatly as we may admire the wonderful transformations undergone in converting the block of lumber into our beautiful bass wood pound sections, and the marvellously constructed cell base on the foundation we insert as a guide, we will appreciate more fully the metamorphosis undergone in changing the inanimate matter into the completed "live" section of delicious honey. The sweet juices of the flowers were concentrated in their ovaries, and the "souls" of the flowers were transmuted into nectar for willing bees' tongues to suck up. To collect that nectar has been the diligent workers' chief pleasure, to transport it into their hives has been their hearts' joy, and to convert it into that sweetest of sweets—luscious honey—has made life, to them, worth living during the whole long period of sunny summer. Truly the various steps in the completion of a full section form a veritable romance.

Wintering Bees.

Bee-keepers should be grateful to Dr. Abushâdy for his contributions to the B.B.J. His single-hearted devotion to the true interests of the craft and freedom from partisan principles make his articles the more welcome. There are too few original thinkers with trained scientific minds ready to help us in solving the many problems with which disease still confronts us.

The writer of this letter, therefore, ventures to put forward the following criticisms from a practical standpoint (he makes no claim to scientific knowledge), knowing that they will be received in the friendly spirit in which they are meant.

If I am not mistaken, Dr. Abushâdy is a comparatively recent recruit to the ranks of bee-keeping.

In his views about protection and artificial heat, is he not unduly influenced by the very abnormal conditions prevailing ever since he became a bee-keeper?

I commenced bee-keeping in the year 1900, not more than a mile or two from where I believe Dr. Abushâdy now resides. Partly owing to keeping usually only young queens, and never letting my stocks go short of food, but still more owing to good luck, my bees were always strong on the approach of winter. They were just ordinary "natives," housed in well-made W.B.C. hives. "Isle of Wight" disease was then unknown, and foul brood never came my way. If necessary (and it generally was necessary in that locality), each stock received a liberal supply of syrup, made from refined cane sugar, at the beginning of September, until there was about 30 lbs. of sealed food in each brood-nest. I heartily agree with Dr. Abushâdy, that syrup is better than candy, it is certainly more natural. Give it early in September, or even in August, when the bees will take it readily, and save a lot of trouble in warming it later, or having to make candy, because they will not take the syrup fast enough. Tops of frames, and floors were scraped when feeding was over, two strips of wood placed under the quilts, which now consisted of one square of calico, with a single layer of flannel laid on it, and then a cork cushion. No other packing was used, or artificial heat employed. The hives were left where they had stood all the summer, with entrances open 6 in. wide all through the winter. I did not contract the brood-nest. The bees always came out strong and well in spring. I never lost a stock in winter. I consider outdoor wintering simplicity itself, and fail to see what advantage I or my bees would have gained by adopting Dr. Abushâdy's recommendations. Even American authorities, I believe, say that outdoor wintering is the safest for beginners, and they only regard the cellar system as preferable where there is long continued hard weather, during which bees could not get out for a cleansing flight; conditions quite different from those which prevail in this country.

"Isle of Wight" disease has altered everything. I first experienced it when living in Essex in 1912. A short time before I had heard it had reached my neighbourhood. One of my stocks showed signs of it in the summer, and was destroyed. The others all died during the winter, obviously from the disease. This was the first winter loss I had ever had. I believe nearly all losses that now occur in winter, except those from starvation or queenlessness, are nearly, if not quite, all due to "Isle of Wight" disease, though their owners often think otherwise, because some of the symptoms commonly associated with it, are not always present; but it takes an expert bacteriologist to decide in such cases, for disease, as Dr. Abushâdy will readily admit, may often be present without any symptom which the practical bee-keeper would notice.

If Dr. Abushâdy's suggestions do really

tend to prevent, or minimise, the mortality from disease, I shall be grateful if he will let us have the proofs, and the account of the experiments he refers to in his last article. Otherwise I shall remain unconvinced as to the value of extra protection, or artificial heat for wintering full colonies, believing as I do in the familiar maxim that "the best packing for bees, is bees."

It seems to me, however, that the application of artificial heat might be of use in preserving weak colonies. The creation of a number of nuclei during the summer, to be preserved through the winter and built up in the spring by such means, might be worth trying (and I would make the experiment if I had the opportunity, which I have not at present). It would remain to be seen if the results obtained justified the expense incurred. I should like to ask Dr. Abushady if he has tried this, and if so, will he give us the results of his experiments?—L. Illingworth.

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

289. What is the purpose of a drone trap, and how is one made and used?

290. Describe how swarms should be taken which have settled as follows:—(1) On the trunk of a large tree, (2) inside a thorn hedge, (3) on the ground, (4) on a low bush, and (5) on a bough high up a tree.

291. What uses do bees make of propolis, and when in the year is it most used?

292. What favours the presence of a laying worker in a colony?

293. How can honey be treated so that when it is put up for sale in small vessels granulation is considerably retarded?

294. What can be done with a swarm when no increase in stocks is desired?

295. Comment on the bleaching of wax, and state how the bleaching can be done.

296. Give a short account of the life of a drone, from the laying of the egg by the queen till his death.

297. How may honey be separated from the comb when the preservation of the comb is impossible, or undesirable?

298. How do bees produce heat, and exercise control over the temperature of a colony?

299. Describe fully the process of making mead.

300. Make notes for a 15-minute lecture on "The Importance of Doing the Right Thing at the Right Time in an Apiary."

J. L. B.

"Echoes from the Hives."

After a prolonged stay indoors through cold east wind, we had a good day last Sunday, 23rd inst. The bees were able to get a good cleansing flight. They were out by the hundred, and looked very strong and healthy. Some of them took the advantage of visiting the snowdrops, which are in full bloom just now. Many of them visited the water trough, which shows that breeding has begun.—Wm. S. Watson, Torrance, Stirlingshire.

Kent Bee-Keepers' Association.

Western Division Annual Meeting.

The 12th annual meeting of the Western Division of the Kent Bee-keepers' Association was held at the Council Chambers, Dartford, on Saturday, February 22, there being a comparatively small, but representative, attendance from all parts of the western area of the county.

The Chairman (Mr. Alfred Dewey), in his opening remarks, stated that the unprecedented advancement commencing in 1917 had continued to date. Although 1918 had not proved a good year for practical bee-keeping, bee-keepers were realising the necessity for co-operation, and as a result of the Association's activities over 200 new members had joined this division during the year. The Association, he believed, was now the largest and best organised association of its kind in this country, and it was hoped that if the proposals which were now under consideration could be satisfactorily concluded a still greater advancement of the industry might be anticipated.

The report showed that membership had increased from 419 to 617 in seven branches, comprising the western area of the county, the largest proportion coming from the Bromley District Branch, followed closely by the Rochester and District centre. The North-East, Eltham, Orpington, and Sevenoaks branches showed very satisfactory progression.

Forty-four lectures had been organised in various centres in the division. Fourteen candidates passed the B.B.K.A. preliminary exam., five the intermediate, and one the final, which was a sure indication of the effectiveness of the Association's work.

A report compiled by Mr. Barnes from the "apiary returns" furnished by members showed that from 231 apiaries 9,253 lbs. of honey had been produced. From these figures it was not difficult to estimate the approximate total production of honey in the county. Although a very poor season, it is believed the production would amount to about 10 or 12 tons. When it is considered that the potentiali-

ties of the county probably are 50 times this amount, the need for further development will be apparent.

A strong committee was elected, representing each district in the western area, consisting of the following:—Alfred Dewey, Esq., Chairman; Mr. G. Bryden, Vice-Chairman; Mr. G. W. Judge, Hon. Secretary. Committee: Abbey Wood, Mrs. Simms; Belvedere, Mr. W. Haselden; Bexley, Messrs. C. W. Knight, A. C. Paulin and Dr. Jackson Wolfe; Blackheath, Mr. H. E. C. Carter; Chatham, Messrs. W. Carter, J. Reader, J. C. Whettam; Crayford, Mr. H. Davis; Darenth, Mr. E. Milliams; Dartford, Messrs. G. H. Barnes and J. Darby; Dulwich, Mr. F. L. Wilson; Eltham, Messrs. W. J. Martin, W. H. J. Prior, V. E. Shaw; Erith, Mr. F. Sykes; Gillingham, Messrs. A. Fry, E. Semper; Gravesend, Mr. H. Wigley; Greenhithe, Mr. H. J. Upton; Orpington, Major C. C. Lord and Mr. C. P. Jarman; Slade Green, Mr. J. Roper; with the adtion of chairmen and secretaries of branches as *ex-officio* members.

Upon a resolution from the Rochester Branch, it was decided to recommend to the Council that this Branch be constituted a separate division. Thanks to the energy displayed by their committee, under the guidance of Major C. C. Lord and Mr. G. Bryden (chairman and secretary respectively), membership had increased to an extent as to make further subdivision desirable. The area covered by this Branch was a large one, embracing all localities in the northern part of the county between Gravesend and Faversham, including the Isle of Sheppey.

It was further decided to convene a conference in the near future to create two other branches and to rearrange existing branch areas with the object of further decentralisation.

The re-election of the Social Committee, consisting of lady members, who had rendered such good services in recent years, was unanimously carried.

At the conclusion of business several presentations were made. The excellent silver cup presented by Mr. Alfred Dewey, and known as the "Chairman Cup," was handed to Mr. W. H. J. Prior, New Eltham, the winner for the year, by the donor. The cup was presented to encourage better methods of bee-keeping, and was won for the first time by Mr. Prior, who gained 161 points, closely followed by Mr. G. H. Barnes with 153 and Mr. G. Bryden with 139. Mr. Bryden won the "Bryden Challenge Cup" for the second successive year, with an aggregate of 40 points, gained at the honey show in August last. This opportunity was taken to present to the Hon. Secretary, Mr. Geo. W. Judge, a diploma in recognition of his work in connection with the creation and subsequent development of the Kent Bee-keepers' Association. Suitable acknowledgments were made, Mr. Judge remarking that it was a source of much pride and gratification to him to have taken the part he had in the development of Kentish apiculture, and he would highly prize this the highest award the Association could offer him. He had given a lot of time to the movement, but the goodwill displayed on all sides, coupled with the results attained, amply repaid him.

The Chairman announced that there was a possibility of losing the services of their secretary, Mr. Judge, who, due to the changes incident to the present-day conditions, expected shortly to be taking up bee-culture professionally, and it might then be necessary for him to leave Kent. He (the Chairman) was anxious that the Association should not lose Mr. Judge's services, for his qualifications as an expert bee-keeper and organiser were irreplaceable. In supporting this, Major Lord (Orpington) said ways and means must be found to provide the finances necessary to adequately remunerate Mr. Judge, and thus retain his services exclusively for the development of Kentish bee culture. He offered several suggestions to overcome the financial problem. Mr. G. Bryden (Rochester) strongly urged that immediate steps be taken with a view of obtaining a grant from public funds for the purpose. He regarded it as a disgrace that Kent, the most highly organised county in bee-keeping, should not possess a salaried official with the requisite qualifications to develop the industry. The Government had now taken bee-culture under its wing, and he believed that it will be possible to obtain funds for the purpose of development in the near future. (Applause.)

Owing to illness, Mr. G. H. Barnes was unable to attend to read his paper on "Swarm Control." Major Lord kindly acted in his behalf. The paper was very interesting, and showed that Mr. Barnes had been studying this difficult question. It was considered that the paper was worthy of repetition in other districts, and it was decided to invite Mr. Barnes to read it at other centres when he regained health and strength. A vote of thanks was heartily accorded him, coupled with the wish that he may have a speedy recovery.

Usual votes of thanks brought to an end a very successful meeting.—*Communicated.*

Derbyshire Bee-Keepers' Association.

ANNUAL MEETING.

A two-fold misfortune somewhat marred the real interest of this annual event, the absence of the Chairman, Mr. Giles,

and Mr. Pallett; the former through illness, and the latter at the funeral of one of his old friends. The meeting was presided over by Mr. S. Milton.

The secretary's report showed that during the past year 25 new members had been admitted, but considering that only 112 individual subscriptions were recorded we could not boast of much improvement in sound membership; we could, however, safely say the financial position of the Association had stood the pressure of hard times satisfactorily.

The total income from all sources amounted to £50 4s. 4d., while the expenditure amounted to £47 7s. 6d., leaving a balance of £2 16s. 10d., which, together with the deposit account, made the gross assets amount to £44 5s. 7d.

The Government Restocking Scheme was fully discussed, and finally adopted, and the reasonable offer of Mr. Hill to undertake the management of purchased stocks was accepted. Members would be supplied with four-framed nuclei at 35s., the orders to be executed in rotation, applications sent to the secretary. It was hoped that too much officialism would not be introduced by the Department. The Association will expect to be treated as a competent organisation.

According to the registration return there are only 310 stocks in Derbyshire, which clearly shows disease has done its work of destruction to an alarming extent. —F. Meakin, Hon. Sec.

South Staffordshire & District Bee-Keepers' Association.

Annual Meeting.

The annual meeting of the above Association took place on Saturday, February 15, in the Temperance Hall, Dudley.

There was a large attendance of members, who came to hear W. Herrod-Hempsall, Esq., lecture, as arranged.

Unfortunately the lecturer was unable to come owing to indisposition, therefore the afternoon was taken up with the business of the Association.

The total receipts for the year amounted to £28 11s. 7d., as against £13 13s. for the previous twelve months. The total expenditure amounted to £21 17s. 3½d., leaving a balance of £6 14s. 3½d., as against £3 17s. 1d. for last year.

This was the financial position of the Association, when the books were audited, but the Hon. Secretary was pleased to say he had received £2 12s. 6d. since then towards the expenses of the recent prosecution. This, together with a few late subscriptions, making a balance of nearly £10.

Eighty-nine members had paid their subscriptions, as against 70 in 1917. This was considered very satisfactory.

The officers for the year were elected, after which the members sat down to tea.

After tea Mr. Joseph Price gave a clear and lucid report on the work of the Association during the past year.

He congratulated Mr. C. J. Law on his success in the Intermediate Examination. He also went into details on the Food Production Department Restocking Scheme.

Mr. Price said he had much pleasure in introducing to the members of the S. S. and D. the Secretary of the County Association. The latter, in acknowledging the kind remarks of Mr. Price in reference to himself, said he was pleased to have had the opportunity of visiting the S. S. and D. Association, and he felt impressed by the manner in which the business was carried on.

The Chairman, Mr. E. C. Middleton, in notifying the members of a meeting to take place in Birmingham with the object of combating the "Isle of Wight" disease, said they of the S. S. and D. would not tolerate the advertising of cures of the disease in their reports, seeing that there were not any of them that could claim to be absolutely reliable.

Mr. E. H. Hipkins gave the members a cordial invitation to again visit his apiary. This was highly appreciated by the members.

A vote of thanks to the chairman concluded a very interesting and instructive meeting.—A. E. Taylor, Hon. Sec.

Honey Caramels.—1 cup chopped nuts, 2 cups honey, 1 teaspoon vanilla, 1 square chocolate. Boil the honey and chocolate, shaved fine, to 260 deg. F., or until it forms a moderately hard ball when dropped into cold water, remove from fire, stir until it begins to thicken, add the vanilla and chopped nuts, and pour into a buttered shallow pan to cool. When nearly cold mark into squares.

Honey Fruit Chocolates.—1 package seedless raisins, 1 package dates, 1 cup figs, 1 cup nuts, grated rind of half an orange, 2 tablespoons orange juice, 2 tablespoons honey, ½ teaspoon salt, dipping chocolate. Put the raisins, dates and figs through the food chopper, add the nuts (chopped coarsely), the grated orange rind, the orange juice, honey and salt. Mix well, form into balls, and set aside in a cool place until firm. Melt the dipping chocolate over hot (not boiling) water, dip the fruit balls, and drain on waxed paper. If preferred, the fruit paste may be pressed into a shallow pan, cut in squares when cold, and wrapped in oiled paper.

That Skep.

[9861] Like many other bee-keepers, I have been interested in reading the correspondence upon this subject. Only to-day I was talking to a bee-keeper of long standing, and he agreed with me that possibly the skep may solve one of the problems connected with the "Isle of Wight" disease. Bees in a skep seem to live charmed lives. The skep *versus* the bar-framed hive, which will win the day? I am convinced there is more in this than we think.

1. The *skep* wax is built up pure and fresh and untouched by man or machine, and the honey stored as soon as the comb is built ready for it.

2. The bar-framed hive wax is placed in the frames, but made up of wax passed through a machine; but how can any bee-keeper be quite sure that the wax foundation is free from contamination? Possibly and probably this comb foundation may unintentionally be the means of introducing into an apiary the disease we fear most of all.

3. The constantly handling of bees in a bar-framed hive may also help forward the disease.

If the skep is freer from disease than the bar-frame hive, then it appears to me that the danger lies possibly in the comb foundation. — (Rev.) A. H. Hallet, Craithie, Wellington College.

Hiving Stray Swarms.

[9862] It is with interest I read various experiences given by bee-men in the B.B.J., especially the taking of stray swarms from difficult positions. Last September I had a striking experience; the same I should like to relate as follows:—

A friend of mine informed me that a swarm of bees had settled in a hedge owned by a neighbour farmer, also that these people were afraid to go into their orchard owing to the bees being so vicious, and would I come and remove them. I told my friend that I had never heard of a swarm so late in this part of the country before, and probably they were wasps. However, after a little persuasion, I decided to go along with my friend (who was armed with his wife's veil) to inspect. We arrived, and to my surprise I found that these bees had been there since the latter part of June, and had constructed six combs from one of the thick branches of the hedge. (Should like to have had them photographed, as they were a picture.) We soon commenced to work. I spread a large sheet of brown paper upon the grass, weighted, on the top of this a travelling box was inverted and propped up at its front edge by stones. As most of the combs contained sealed honey, I removed some of the cappings with my pen-knife for the bees to gorge. That did it! for the next picture saw my friend trying to do 100 yards sprint in 8 seconds—a bee had settled on his nose and stung him through his wife's veil, and like the Irishman he found out that bees were hot-footed.

After I had fixed him up again in the way of protection, I cut down the combs and brushed off the bees with a feather down in front of the travelling box, into which they quickly entered. Now, as these combs contained brood in various stages, I wrapped them up in warm material to prevent it becoming chilled, till all were cut down and dealt with in like manner. All the bees removed, the combs were cut to the size of brood frames and secured; the travelling box was reversed and the frames of comb placed in it. The bees soon took possession of the combs, and those that remained flying joined their comrades through the entrance in the box. Messrs. Editors, is it not unusual for bees to build combs exposed to the weather, as it would have been impossible for these to have wintered? Has any other bee-keeper seen, or had the same experience? —P. Lythgoe, Padgate, Warrington, Lancashire.

[It is not unusual for bees to build comb in a hedge or tree.—Eds.]

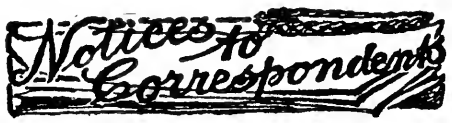
Chapman Honey Plant.

[9863] In reply to 9847, I have grown *Echinops sphærocephalus* in my apiary for twelve years or more. Although the flowers are crowded day after day by many kinds of lepidoptera, as well as hymenoptera, I have never seen any "narcotic effect" produced on any of them.—M. E. Bott, Broomfield Road, Chelmsford.

[9864] Respecting "A. F. H.'s" notes and question on other people's views *re* the Chapman honey plant, when there was something of a boom on it, some 15 to 20 years ago, in the B.B.J., I grew a patch close to my hives, but my bees never made any use of them: indeed, on sunny days there seemed little chance, as they were always covered by sleepy humblebees and drone-flies. Maybe in this district there was something more attractive, and I did away with them as useless after two years.—Jos. G. Nicholson.

Remedy for Earwigs.

[9865] I have used, with every satisfactory—yea, perfect—results, in combating earwigs, the disinfectant "Killogerm." This I sprinkled freely on the ground around the hives.—HEADMASTER.



The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

"NOVICE" (Crowborough).—*Rubber gloves as protection from stings.*—Yes, these are an efficient protection.

"BROWNIE" (Oundle).—*Italianising an apiary.*—The quickest way would be to clear out the other bees, and get Italian stocks in their place.

(2) Working for increase and selling stocks and nuclei would be more profitable than selling swarms, but would also entail more labour.

(3) It depends on the market you have. On the whole, we should say working for extracted honey is the most profitable. Extracted honey gives the largest return in weight.

"STOCKS" (Shrewsbury).—*Value of stocks.*—We cannot say what the value is without examination. If in good condition, about £4 each without hive. Do not move them for another month. You could sell the bees with or without the hives. In the latter case you would need a box to send them away in.

"DOUBTFUL" (West Farm).—*Making candy.*—Follow the directions No. 2 in the "Guide Book." Any chemist will make up the N. Beta solution. The dose is 3 grains dissolved in a little spirit, to each pound of sugar.

MRS. M. L. CHAMEN (Essex).—(1) If you can find means of getting the bees to the station you will have no difficulty in disposing of surplus swarms. A small advt. in our prepaid advt. column would find you plenty of customers. (2) It is not necessary this year.

E. J. GEORGE (Oswestry).—There is no association in Shropshire.

Suspected Disease.

"CLEMENCE" (Clapham).—We could not find disease in the bees sent.

MISS L. W. (Middlesex).—Both samples of bees were affected with "I.O.W." disease. See "Seasonable Hints" in last week's issue.

W. J. POLLARD (Bristol).—The cause of death was "I.O.W." disease. The mildew is the result of the damp weather. If you do anything with the combs, extract the honey and use it for domestic purposes, and soak the combs for several hours in disinfectant and water, drive the solution into the cells with a garden syringe, and use it again when you take the combs out. It is much safer to destroy them and get new frames and foundation

Special Prepaid Advertisements.
One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of,* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on the 27th of the month for insertion in the next month's RECORD.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, Taylor's No. 17 Geared Extractor.—HINER, Swaffham Bulbeck, Cambs. o.1

HIVE, Skeps, Swarm Catcher and Appliances, cheap to clear.—W. ABREY, Scalford Road, Melton Mowbray. o.2

EGGS from White Wyandotte, Bradley direct strain, 10s. 6d. dozen; unfertiles replaced.—A. E. WARREN, Simpson, Bletchley. o.3

FIVE Stocks Dutch-Italian Hybrids, 1918 Queens, delivery May 15, on eight frames, guaranteed healthy, £4 4s. each, or £20 the lot.—EARLDOM'S, Ridgeway, Enfield. o.4

FIVE Hives for Sale; guaranteed no disease.—PEIRCE, Rosemount, Tudor Hill, Sutton Coldfield. o.5

WOOD Pulp Vessels, three sizes, three W.B.C. Hives, two Bottle Boxes, three bound volumes BEE JOURNAL, Nos. 8, 9, 10; deposit.—J. ARCHER, Neston, Ches. o.6

FOR SALE, several Hives, Supers and Appliances; good condition.—Particulars, E. MILNER, West View, Hook, Goole, Yorkshire. o.7

CAN accept orders for a few May and June Swarms.—A. W. DENNY, Godstone, Surrey. o.8

FIRST Grade Honey, 14-lb. tins, 38s.; Second Grade, 34s.; carriage paid. Hatching Eggs, Chicks.—NORTH, Cressing, Braintree, Essex. o.9

QUANTITY W.B.C. Hives and Appliances, good condition, cheap.—KENT, All Saints' Road, Dorchester. o.10

WANTED, Roots' "A B C and X Y Z," 1910, or later edition.—CUTHBERTSON, Manor House, Heighington. o.13

CHAPTER II., "Let the Bees Tell You," will be out early next week.—S. H. SMITH. o.17

MAY-JUNE DELIVERY.—A limited number of four-frame Nuclei, headed by 1918 Italian Queens, price £3 3s. each, carriage paid.—Box 9, BEE JOURNAL Office, 23, Bedford Street, W.C.2. o.19

WANTED, Healthy Stocks of Bees and Appliances. — W. SMITH, Hook Farm, Aldingbourne, Chichester. n.13

EXCELLENT Light Cambridgeshire Honey, 14-lb. tins, 2s. 6d. lb. Crate returnable.—SMYTH, Coldharbour, Ashwell, Herts. n.47

HOUSE and Land suitable for Bee Farm wanted, within 40 miles of London; main lines: North or Great Western preferred.—Box 6, BEE JOURNAL Office, 23, Bedford Street, W.C.2. n.39

British Bee-Keepers' Association.

We would remind our readers of the Annual General Meeting to be held at the Central Hall, Westminster, next Thursday, March 20, commencing at 4 p.m. This is open to members and delegates only. After this there will be a Conversazione, at which a discussion on "The Future Development of Bee-keeping" will be opened by Mr. G. W. Judge, secretary of the Kent B.-K.A. All bee-keepers will be welcome at the Conversazione. Admission is free. Ladies are specially invited. Objects of interest for exhibition will also be very welcome.

A Dorset Yarn.

Once more our bees are flying over the fields. We can see them on the speedwells as we plough the soil, can hear them flying swiftly overhead, but what they find is somewhat a mystery to me. Catkins of Corylus are very plentiful, but there seem to be few bees on them; it may be the giant elms that tempt them afar; all seem to be opening their flowers, only they are so high up it is difficult to see if they are open; but it is good to hear the bees round us as we work. The willows in the hedgerows are showing light-coloured blossoms, but as yet the male flowers have not liberated the pollen; with so much wet, it is well they have not, as they would be spoiled. The small celandine was open on March 2. Daisies are plentiful, so besides the sugar, which they are rapidly consuming, they have flowers to look over in plenty. Crocuses are a delight to them; they seem to gather nectar as well as pollen, as I notice them at the base of the flower as well as on the pollen tips. It is one of the units of the floral world that opens and closes according to the weather. Saturday, March 8, they were delightful to see, each flower with bees on it. As night approaches they close the coloured petals over the pollen and pistil, so that rain shall not injure these delicate organs. When the sun shines again, each will open its floral envelope for bees to complete the fertilisation. He who loves nature can see so many of these truly wonderful mechanisms, as each month the flowers unfold their petals; each has some peculiarity which gives an extra attraction.

Everything in nature is now moving on quickly; it is only the work that is behind. The soil is so wet just now, and without the promise "seedtime and harvest shall not cease as long as the sun and moon endureth," one would give up hope with soil full of water in March; but it will mean an extra ploughing, and the extra tillage will give better crops, though they must of necessity be later for harvest.

Mr. Rosser, of the Australian Force, who visited the farm a week or two back, writes of the hospitality he received from the West-Country bee-keepers, and he states I gave the wrong figures of the returns of bees—it was his chum's 300 colonies that gave £300 and £300 for his fruit. His own 80 stocks gave him 48 lbs. average.

Another letter this week, from a Lancashire bee-keeper, tells of his Dutch bees swarming so often. He had seven swarms and very little honey from them; one could not expect much with seven swarms from one stock. One could only tell him to look over the frames and remove the number of queen cells. "To get honey, keep the colonies strong." Text-books tell you to take out the queen, and put the swarms back again. I did that till I found they came out again as soon as another queen came out of a cell. The method advocated in the JOURNAL, to make two stocks from one when the frames are full of brood, seems to me the best preventive of swarming. One must have new queens; one cannot destroy all, unless queens are reared from some of the best colonies for the purpose of re-queening when she is old and useless. These Dutch queens must be very prolific; it is a race that we want for re-stocking the countryside with bees, but they will not be the best for those of us who cannot always be with them; we should lose so many. My Lancashire correspondent has his business to attend to as well as bees. He is a basket maker; if he makes fruit baskets, we can do with some in Dorset. Better buy from bee-keepers and help each other than buy the foreign make, which are so extensively used in our trade. It looks as if baskets will be wanted this season, as everything looks full of promise. The Jargonelle pears have already burst the cases that protected them during winter; all pear-trees look like bearing great quantities of blossom, as do plums and cherries. After a year of scarcity a year of plenty will be a luxury for all.—J. J. KETTLE.

Notes on "Isle of Wight" Disease.—VIII.

THE IDEAL HOME.

The main conditions for an ideal bee home are its cleanliness, protectiveness, and prosperity. In cold countries, at least one of these essential conditions for a true healthy home is comparatively lacking, and if not properly compensated for, is

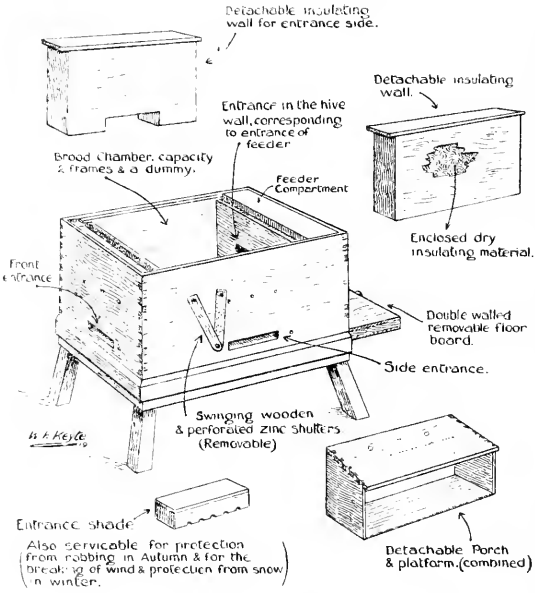

Detachable insulating wall for entrance side.
Detachable insulating wall.
Entrance in the hive wall, corresponding to entrance of feeder
Brood Chamber, capacity 2 frames & a dummy.
Feeder Compartment
Enclosed dry insulating material.
Front entrance
Double walled removable floor board.
Side entrance.
Swinging wooden & perforated zinc Shutters (Removable)
W. K. Keyte
Entrance shade
Also servicable for protection from robbing in Autumn & for the breaking of wind & protection from snow in winter.
Detachable Porch & platform.(combined)

FIG. 6.—PROTECTIVE HYGIENIC HIVE.

bound to remain responsible for a high mortality during the cold season. This fact is often forgotten by many bee-keepers, who seem to imagine that bees in cold countries should winter just as well as in tropical or sub-tropical areas. This can never be the case. Yet by carefully analysing the harmful influences in cold districts, and by improving the methods of protection, one may hope for appreciably better results, than the average results obtainable with the usual unscientific methods.

Malignant dysentery is no modern bee disease, although it might have become more disseminated during the last twenty years; but whilst in the past presumably cases of this infection were attributed to other causes, the present tendency is to attribute almost every form of disability of adult bees to "Isle of Wight" disease. . . . True, *Nosema apis* has been met with in one form or the other in many cases of diseased bees, and it is not possible from the study of available literature on already conducted research to exclude the existence of this illness, which is considered responsible for a high annual mortality amongst bees in several countries, and especially in Great Britain. Nevertheless, a great mistake is being committed by underestimating the indirect harmful effects of the weather, and its responsibility for the creation amongst adult bees of forms of disability in various degrees, an extreme variety of which would exhibit symptoms not unlike those of *Nosema disease*, and yet without being infectious. It is possible that the non-infectious American *bee paralysis* is of such an origin. To make my meaning clearer: let us consider the case of an average colony housed in the average outdoor hive (which by no means can be considered ideal) and exposed during the winter for a period of one month, or more to frosty weather. Should such a frost be of several degrees, and the colony be insufficiently strong to generate a counterbalancing heat, extinction of the colony will be the only issue. On the other hand, should the frost, or an approximate cold, be moderate, the bees of a fairly strong colony will generally be able to counteract it by their self-generated heat, but often also with harmful consequences. It is well known that bees do *not* overfeed themselves, so far as atmospheric conditions are concerned, *except* when the temperature is either comparatively too high, or too low. In the former case, the excessive feeding is the result of activity, whilst in the latter case it is principally for the purpose of protective heat generation. Such prolonged over-feeding in mild, frosty, or approximately cold weather, accompanied by prolonged confinement, will result in the accumulation of metabolic waste products, and finally in metabolic poisoning, with ensuing symptoms not unlike those met with in *Nosema disease*. The repetition of these remarks is more than necessary for emphasising on

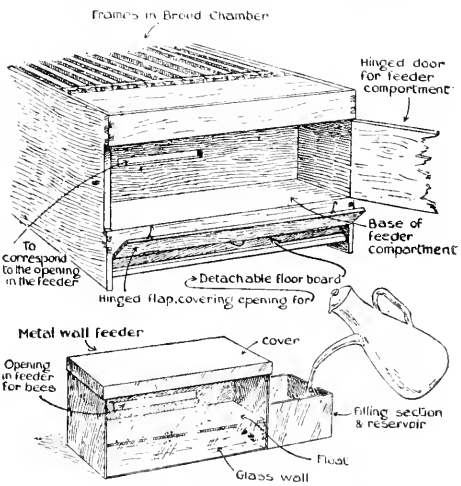


FIG. 7.—HYGIENIC "WALL FEEDER."

the one hand the necessity in cold countries of securing by artificial means the right protecting minimum temperature, and for appreciating on the other hand the inevitable high mortality from which it is difficult to completely escape, but which it is possible to minimise by the use of better methods of protection. For this reason, I consider the *sheltered winter apiary*, a progressive necessity with which a good outdoor hive or an ordinary winter cellar is *only partially* comparable.

Figs. 6 and 7, which are partly self-explaining, illustrate the chief constituents of another type of a hygienic hive. Two entrances are depicted: a side entrance and a front entrance, also detachable insulating walls, and a detachable combination of a porch and platform (alighting board).

The value of a *side entrance* in ensuring successful wintering seems to be more appreciated than the merits of a front entrance.(*) By having a hive possessing the two entrances, and in the presence of a detachable combination of porch and platform, the apiarist can utilise at any time, according to the best of his experience, whichever entrance he considers the most desirable to use, and may alter his practice whenever necessary. The unrequired entrance could be closed during the winter by a suitable wooden shutter, and partly closed during the hot summer with perforated zinc for the purpose of *additional ventilation*. One detachable protective floor board is also shown in part in Fig. 6. This could be easily replaced at any suitable time in winter by a spare clean one. With the presence of additional means of ventilation in this type of hive, the provision of a perforated zinc or wire cloth floor board is not quite necessary, although the latter has advantages of its own.

In my opinion, no hive could be considered hygienic which does not permit of the regular and easy cleansing of its floor. The *removable floorboard* is probably the simplest and most practicable device for solving this difficulty.

The choice of a suitable *entrance shade*, other than a partial detention board, is a difficulty, because, should a broad and a long one be chosen, it generally puzzles the bees when taking a cleansing flight, unless they are guided by the sounds of their sister guides; whereas if a narrow one be selected, it will frequently be found unserviceable. The difficulty may be partly overcome by choosing medium measurements and by dividing the front opening of this entrance tunnel, with the bee-holes at its lower border.

* "Entrances," by Arthur C. Miller; *The American Bee Journal*, August, 1918, p. 262.

The use of hives with *deep, large frames* appears also to be a reasonable measure of winter protection which is closely associated with the prevention and incidence of sickness. Although an admirer of American methods of apiculture, I am far from being a blind worshipper who would consider these methods as ideal. I cannot ignore, however, the highly reasonable arguments in favour of large, deep frames, which suggest the desirability of not only modifying the sizes of our standard frame, but also of creating a larger one than the largest standard frame in America. This important question deserves to be re-investigated without prejudice.

The *accommodation of the feeder* in relation to the hive also merits a special consideration. I need only refer by way of illustration to one of the noted feeders in use, namely, the *Alexander feeder*, which is accommodated in the most insanitary and the most unfavourable part of the hive. The desirability of having a hygienic feeder in a special clean compartment of the hive could be easily fulfilled by means of a "*wall feeder*," as illustrated in Fig. 7. During most of the season, when this feeder is not required for honey or syrup feeding, it could be utilised as a clean *water reservoir* for the bees; and if not in use at all, it could be removed from its compartment and the corresponding opening in the hive wall closed with a piece of perforated zinc, in order to serve the function of *additional ventilation*. During winter, this opening could be closed altogether, and the feeder compartment filled, if desired, with a packet of suitable insulating materials that could be economically changed. Such a feeder has the advantage of being not only in a clean, warm position in relation to the brood chamber, but also of being a rapid feeder, with a suitable float and reservoir that will not permit of the drowning of any bees if properly used. It could also be re-charged at any time without either permitting the bees to be disturbed, or to disturb the operator himself, since they will have no chance of escaping. Its use will also *not* interfere in any way with the internal equipment of the hive, from which it is practically independent; and if employed sufficiently early in the fall, the bees should be able in a reasonable time to secure and cap their necessary stores, thus excluding in normal times the unsafe practice of winter feeding on candy.

Amongst the many points that should be considered in connection with the qualifications of a hygienic hive is *the enamelling of the hive internally*. This practice is not approved at present except by an insignificant minority of bee-keepers, although the facilities it affords for the

cleansing and disinfection of the hive—which, from its habitual state of darkness and warmth, is a favourable nursery for various micro-organisms, whether harmful or otherwise—are only too obvious. The objections to the internal painting of the hive (principally the condensation of moisture) are greatly minimised by having a removable floorboard.

To recapitulate: the mortality amongst bees cannot possibly be reduced to the lowest natural minimum when an ideal home is excluded. Unfortunately, we cannot always approach such an ideal home in cold countries, but we can attempt, with some success, to establish its qualifications, instead of being content with present conditions. We may hope then to appreciably reduce the avoidable mortality amongst bees, which may or may not be associated with infection, although often previously presenting allied symptoms of illness. The influence of the home of the bee on her health and sickness is too important to be lightly treated. It is decidedly one of the leading weapons in fighting "Ise of Wight" disease.*

A. Z. Abushady.

*The previous article appeared in the B.B.J. for February 27.

Questions, etc., for Bee-keepers for Self-Examination.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

301. What means can be used to induce a swarm to remain clustered for a considerable time?

302. How may larvæ be transferred to queen cells?

303. What ensues if bees build a queen cell over a drone larva?

304. Grade the different races or kinds of bees—(1) as propolisers, and (2) as makers of cappings.

305. Of what utility is an extractor in an apiary run for section honey?

306. When wax is rendered by means of heated water why should only distilled or rain water be used?

307. Explain the danger to which bees are subject from the existence of stagnant water or temporary pools of water near an apiary.

308. What factors influence the choice of the date in the spring when stimulation of brood-rearing should be commenced?

309. How should extracted honey be treated before it is put up for sale in clear glass vessels? Give details.

310. In view of the advantages claimed for the Heddon reversible frame, suggest reasons why it is not more generally used.

311. How may comb honey (not in sections) be put up for sale cheaply but effectively in small quantities of 1 lb. or less?

312. Write an account of the invention and development of the means of extracting honey from comb without destroying the comb?

J. L. B.

Notts. Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting was held in Peoples' Hall, Nottingham, on Saturday, March 1, and was presided over by the Rev. A. Thornley, M.A., F.L.S., F.E.S., F.R.H.S., etc., when over 100 members and friends were present, including several council members from the Leicestershire and Derbyshire Associations.

It was stated that 50 new members were enrolled during the season, making a total membership of 246. The honey season had not been all that could be desired, though existing bees did fairly well, and in regard to finance they were in a satisfactory position, having a balance in hand of £6 11s. The Notts County Council and the Estates and Public Parks Committee of the Nottingham City Council had favoured the Association with grants which had enabled experts to take instruction to 146 apiaries.

The examination of candidates for the preliminary diploma as expert was held at Beeston in August, when the following satisfied the examiners: Miss Darney (Retford), Messrs. G. Smithurst (Watnall), W. Sharp (Kirkby) W. Jackson (Nottingham), G. Ward (Langley Mill), S. Dodsley (Heanor), and A. H. Hanson (Ilkeston). The Bee-stocking Committee reported the failure of the whole of the Association's stocks as a result of "Isle of Wight" disease, and Mr. Skelhorn (Nottingham) said that in spite of this disaster Bee-keeping Associations would have to go on struggling and doing their best to increase stocks. It would never do to stand aside and let the disease beat them. Pressure should be brought to bear upon the Government to investigate the disease, for unless the industry were kept going food production would suffer considerably. All members present signed a petition asking the Government to introduce legislation for the protection of bee-keepers.

The Rev. A. Thornley, replying to a vote of thanks, expressed the opinion that the Government should vote sums of money, as in the case of the poultry industry, in order that investigations might

be made, with the view of finding a remedy for the Isle of Wight disease.

The officers were all thanked for their services, and re-elected for the ensuing year.

After those present had partaken of tea, the meeting was resumed, and in the absence of Mr. W. Herrod-Hempsall, who should have addressed the meeting, but was prevented through illness, Mr. Hayes and Mr. Pugh together explained the Government Bee Re-stocking Scheme. They further stated that the Horticultural Sub-Committee had requested the Notts. Association Bee Stocking Committee to take over the bees and queens they had ordered and work them to the best advantage. The Bee Stocking Committee had considered this, and now recommended the anual meeting to vote a sum of £35 for the purchase of the bees and queens, to enable them to carry on the work of their bee stocking apiary. The scheme put before the meeting was considered very satisfactory, and it was decided most unanimously to adopt the same; and authorise the Bee Stocking Committee to proceed as they suggested.

A vote of sympathy was expressed to Mr. Herrod-Hempsall, with a wish for his speedy recovery. The meeting was concluded by the usual draw for various useful articles, including hives, etc., in which 17 prizes were awarded.—G. Hayes.

Hants. and Isle of Wight Bee-Keepers' Associations.

ANNUAL MEETING.

The annual general meeting of the Associations was held on Saturday, March 1, at the Y.M.C.A. Rooms, Ogle Road, Southampton, at 1.30 p.m., when Rev. E. W. Medlicott presided over a good attendance, which included Mrs. Henshaw, Miss Gruning, Miss Martin, Messrs. H. M. Cooper, W. Bennetts, G. H. Robins, C. D. de R. Hills, A. F. Hardy, C. D. Cawsey, C. Martin, E. Stewart, S. G. Leigh, J. Draper, L. Illingworth, and others. Letters expressing regret at inability to attend, were read from E. H. Bellairs, W. Moody, A. J. Brown, L. H. Marsh, W. F. Perkins, Esq., M.P. Rev. A. T. Finch, J. P. Stilwell, Esq., W. H. Myers, Esq., Rev. G. Field, Mrs. Heathcote, W. Smith, and Dr. Milburn, who sent his best wishes from Italy, where he is serving in a military hospital.

The report of the Committee, presented by Mr. F. D. Hills, Hon. Sec., was read and accepted. It stated that generally speaking, another poor year, the second in succession, was experienced in 1918, and bees went into winter in unfavourable condition. The great demand for honey during the year was not nearly met by the home product. Stocks of bees were in great demand at good prices. The work of the Association was restricted owing to difficulties created by the war, notwithstanding which, various lectures and demonstrations were given in different parts of the county by the Secretary and Members of the Committee, and the usual spring and autumn tours by the Society's experts were undertaken, assistance and instruction being rendered to those members requiring them. The membership of 286 showed an excellent increase of 126 during the year. The Food Production Department has taken a great interest in bee-keeping during the latter part of the year, and issued instructions for the formation of Bee Committees in connection with the County War Agricultural Executive for the purpose of registration of all bee-keepers, the supply of bee food, and a scheme for re-stocking by means of imported Dutch stocks of bees, and Italian queens.

On account of the much regretted serious illness of the treasurer, Mr. E. H. Bellairs, the balance sheet could not be submitted. The Secretary, however, stated that the subscriptions were £34 more than in the previous year, which was considered very satisfactory.

H.R.H. the Princess Beatrice was re-elected President, the Vice-Presidents, with the addition of D. T. Cowan, Esq., and Mr. Bellairs, as treasurer, and Mr. A. F. Hardy as librarian were also re-elected.

The gathering then settled down to the important business of re-organising the work of the Association, in view of which, the existing rules were carefully gone through and revised. To relieve the heavy amount of work devolving upon the Secretary, owing to the growth of the Association, a scheme of dividing the county into sections, and the formation of Branches in those sections was evolved. The Branches will elect their own secretary and committee, and look after the interests of its members. The Executive Committee was then chosen, and in addition to the existing members, Messrs. S. G. Leigh (Broughton), W. Bennetts (Petersfield), A. Frampton (New Milton) and Rev. A. T. French (Kingsclere) were elected. The company regretted the loss by death of one of the Committee, Major R. W. Heathcote, of Southampton. It was unanimously decided to affiliate to the British Bee-keepers' Association, Mr. A. F. Hardy and the Secretary being appointed delegates for the ensuing year.

Votes of thanks to D. T. Cowan, Esq., for his interest in the Association, Rev.

W. E. Medlicott for presiding over the meeting, and the Secretary concluded a successful and somewhat prolonged meeting.

The address of the Secretary is Mr. F. D. Hills, Ivanhoe, Alton.

Aspect and Robbing.

As the time is drawing near when it will be safe to move bees, a word or two on the above subjects may not be out of place.

Some will be starting bee-keeping, and others rearranging their stocks and looking for a good stand.

I have stocks under varied conditions. Amongst them are eighteen in three bee houses, holding six each. I am very fond of beehouses, their advantages above solo hives are so many that I have nearly given up making hives. But that is another story.

Owing to the position that the beehouses have to stand, with stocks on three sides, some of them fall to face north-east, and never get the sun on them except early morning in midsummer. The only protection from the cold winds that these stocks have is a fence, or hedge, a few yards away to break the wind when blowing against them. I have noted the progress of these cold-aspect stocks, and I really cannot tell any difference in their progress from those on the warmer sides of the house.

They build up as early and as quick, and give the same results.

Respecting Robbing. At the end of last summer we had a plague of wasps, which were answerable for a good deal of robbing. I lost three good young stocks, and might say: "Bang went £12." I will not trouble you with details of the fight I had with them. Sad to relate the robbers won; all I saved was one queen, which I made good use of.

The robbing process seemed to be that the wasps came first, and started to try and gain an entrance, thereby exciting the stock, which soon became somewhat demoralised. Then the bees from other stocks joined in the attack on them, and very soon the one under operation was robbed out. Whilst this was going on I carefully noted some young small stocks that were on the cold side of the beehouse, and found that not in a single case were they troubled with either wasps or robber bees. The robbers, whether wasps or bees, always devoted their attention to either single hives facing south, or those in the beehouse with a warm aspect, and avoided going round the corner where it was cool and no sun shining.

I am not advocating that all stocks should be placed facing north-east, or other cold quarters; but if it is most convenient to the bee-keeper to place stocks somewhat in this direction, he need have no scruple about doing so, providing always that there is some kind of windbreak a few yards away, near enough to be a shelter, but not too near to obstruct the flight of the bees. I find that a fence or hedge, 5ft. high, is no obstruction if as near the hive as three to four yards.—W. Ion, Healing, Lincs.

Jottings.

THE BROOD-HATCHING CHAMBER.

I am sorry to take our readers back to page 362 of November 7 issue, but as I was in hospital I have only just come across the description of this new proposal, and I think it may prove a trap to the unwary, besides an expense which need not be met, to obtain the desired end, and to my mind the advantages claimed somewhat overlap, and are thereby considerably nullified. And only in the extra protection afforded to "queen-hatching cells," can I see any real advantage over an ordinary lift without impediment of access of any kind, beyond the usual queen excluder, and even for that this is not required; moreover, the stock must be in a crowded condition to be ripe for the five frames lifting, and we might safely presume two-fifths of the brood would be unsealed, and not nurtured nearly enough to warrant this separate treatment. And how is this to prevent swarming?

Conditions of season, colony, and temperature are mutual, and automatic, and at this time bees must gather honey in bulk to be "satisfied" with their home. Why retard them with "escapes," with the possibility of bracing and propolising? And with regard to number two, my experience tells me outside combs at this time are generally honey-clogged, or of no use to the queen; these can come up for the purpose mentioned, and at the same time provide a natural packing for the three or other number of brood combs "lifted." The ordinary dummy outside, with a packed interval makes all snug, and can be extended, or even contracted to suit requirements of colony or temperature, and at the next "lift," conditions should be right for a super, or supers, under or for extracting and replacing at bottom, and generally it will be found the tops of frames are already stored for winter; the right bee-man notes this, and extracts, or aids as required. The real point, to my mind, is

we arrange and argue these facts without considering the most important factor of the time of season and forage procurable.

Also, it seems rather contradictory to raise an excessive number of bees and then imprison queen as a further guard against swarming. I offer these remarks in response to Dr. Abushady's invitation, having no particular interest beyond the fact I think the appliance might be a hindrance at the "crucial time." I see he has now been able to secure a pattern chamber for experiment; one must admire the spirit of research and open-mindedness expressed in his articles, and considering the copious extent of them, with their inevitable, at times, overlapping tendency, we must expect their apparent flat reception, but I feel sure most of us are extremely interested and appreciative. But I think the utility of this appliance will not be proven, unless he states at outset whether the objective aimed at be a maximum number of bees or honey, which is the chief reason for bee-keeping in any given hive.—A. H. Hamshar.

Old-fashioned Recipe for Inflamation and Fevers.

Gather the blossom of the elder when in full bloom, and dry in the sun, storing in paper bags.

To use it, take a good handful of the dry flowers—put it in a 1½-pint jug and fill with boiling water; allow it to stand about ½ hour, and keep covered, on the stove if possible. Pour out a tumbler full, and add a dessertspoonful of honey, and 10 drops of essence of peppermint—drink it as hot as possible, and get into a warm bed, wrapping up well, so as to induce sweating.

This is an old-fashioned herbalist prescription for any internal inflammation—including appendicitis—and is very good for influenza.—F. M. Claridge.

Combs from Other Hives.

Reply to a Question. By E. Borgeaud. *Translated from the "Bulletin de la Société Romande d'Apiculture" of February*, 1919.

The shed may be a safeguard against the sudden change of temperature, but it also has the great drawback of being too long in heatng up in the spring. In my shed at Villars-Lussery (48 hives) I was struck from my first visits by the raw air which prevailed inside; the colonies were remarkably late in building up compared with those which were placed in the open.

In spite of giving stimulating food, I had not succeeded, and I was disappointed at having put up such a splendid building with no result, when the idea struck me of heating it. My first attempt consisted of a paraffin stove, which was lit for about 20 days. During this time we experienced a frightful snowstorm with hard frost, and thousands of flowers just bursting into bloom were covered with snow and ice. Seeing this, I heated up. I acknowledge I heated up a little too much, for in the rare intervals when the sun shone there was an abnormal liveliness in front of the entrances of my hives.

At last better weather came, and with it I made a general inspection of my colonies. In the stocks in the open I found an almost complete stoppage in brood-rearing, whilst in those in the shed the stimulus was given so well that these colonies had overtaken those outside, a thing which had never happened before.

This was my first year's experience; but since then I have made excellent experiments, and I came to the following conclusions, which are now my method of working:—

1. So long as it is cold and that fine weather has not aroused activity among the bees, don't heat.

2. Later, when the sun is distinctly stronger, and the bees should be flying, except for the fact that the heat of the sun's rays does not penetrate through the shed, then heat to expel the cold from the interior.

3. After a series of fine days, followed by a return of a cold spell, heat in order to maintain the natural heat that they previously had.

4. Heat in whatever kind of weather, independently of these three conditions, if you possess an apparatus capable of constantly giving a few more degrees of heat than the ordinary temperature. If you can add to that plenty of good, nourishing stores, a drinking-place near the shed, and a few pinches of flour thrown in the entrance, you will have seconded Mother Nature, and all will go well.

Weather Report.

Westbourne, February, 1919.

Rainfall, 2·91 in.
Heaviest fall, ·75 in. on 16th.
Rain fell on 15 days.
Above average, ·72in.
Sunshine, 54·1 hrs.
Brightest day, 11th 7·3 hours.
Sunless days, 13.
Below average, 26·1 hours.
Maximum temperature, 52 on 22nd.
Minimum temperature, 22 on 8th.
Minimum on grass, 18 on 9th.
Frosty nights, 13.
Mean maximum, 41·5.
Mean minimum, 32·8.
Mean temperature, 37·1
Below average, 2·0.
Maximum barometer, 30·633 on 9th.
Minimum barometer, 28·967 on 25th.

L. B. Birkett.

Wintering Bees.

[9866] Under the heading "Wintering Bees," H. Illingworth has described the exact method I employ in wintering mine, with the exception that he puts on a cork cushion, which I consider unnecessary. All I put on mine is one sheet of ticking and one or two layers of blanket, or an old sack. With this treatment my eleven stocks appear quite lively. To show the resistance of bees to cold, on March 3 mine were flying in numbers. In front of some of the hives are some palings, and in the evening I found a few bees had got left upon these, and I left them there. The night was very cold, though no frost. The next morning at 10.30 these bees were still on the palings. I collected them and held them in my folded hands for three minutes, when they became quite lively. I put them on the alighting board, and they briskly entered the hive. We coddle and fuss bees too much, in my opinion, and in this neighbourhood many agree with me. Five of these stocks have wintered entirely on pink candy.—R. Oswald Fordham

Co-Operation or Profiteering?

[9867] I wonder what "Spectator" means exactly by his heading in the Journal of February 13 and 20. Perhaps, if I venture to pass a few remarks, *not* under a *nom-de-plume*, he may feel inclined to throw stones at me; but I shan't mind. I don't live in a glass house—it's pretty substantial brick and mortar—and if he does I shall have to begin quoting proverbs—"*Honi soit*," etc.

To start with, he is going to get—at least he has paid for—"bees *on four frames*," headed by an Italian queen, from Sgr. Penna. I want to know a few things, please, Mr. "Spectator." What year were those Penna queens reared in, and what time of the year? Am I to understand "bees on four frames" means four frames of *brood*, with the adhering *young bees*, or are the frames anything ranging between sheets of foundation to honey- and pollen-clogged combs? Do you get a guarantee of healthiness with each individual lot? If so, who is the man who can afford to give such bargains? Tell us his name, and I'll guarantee the readers of the Journal will keep him busy a month answering letters.

My friend, if you happened to find such a thing as a bootmaker selling off stock at half current prices, would you think that a reason to accuse every other bootmaker of profiteering? You have not yet got your nuclei, so don't begin to shout too soon.

It is a well-known fact that, to produce brood, the bees use an enormous amount of food, but, although I have diligently searched, I can find no tabulated record of the amount of honey or syrup the bees will consume to produce a given amount of brood. I shall have to endeavour to experiment in this direction.

However, judging from the amount of syrup fed during spring and autumn for stimulating purposes, and comparing this with the amount a queen-rearing nucleus will consume, I will make a rough guess at about 4 lbs. of honey or syrup to produce one standard frame well filled with brood in the final stage before capping. Putting honey at 2s. per lb., this means a cost of 8s. per comb of brood, not including the apiarist's time, value of the frame and foundation (now about 1s. 3d. each), which, being added, brings the *cost* of four frames of brood to 37s., irrespective of the amount of honey the combs may contain, although this latter should be very little in decent brood combs; adding Signor Penna's current price for queens in May, 10s. each, totals 47s. And what about the poor apiarist? He has had weeks of worry, hundreds of letters to write, and people will forget to put stamp in for reply (they are 1½d. each now, another 50 per cent. increased cost); he has had to find pounds and pounds' worth of hives and fittings; and, above all, if he is an apiarist, he has got his reputation to study—worth a lot nowadays.

If, as I very much suspect, the queens are 1918, not 1919, just allow me to remind you that Signor Penna's queens are very prolific, and if properly worked and managed are quite likely to be "spun out" in one season. I know, for I've done it.

Perhaps Mr. "Spectator" will oblige us with a little more light on his marvellous discovery, and, incidentally, remain a "Spectator" no longer. The "looker-on" doesn't always "see the most of the game"—it's those "behind the scenes," generally.

One more point and I will finish. I cannot allow the statement that "conditions of bee-keeping this year are not by any means worse than that of last year" to go unchallenged. They *are* worse—most decidedly so. Else why does Signor Penna now charge 10s. each for queens from May to July, and 9s. each for August and September, as against 8s., graduating to 5s., for last year; no reduction for quantities, and only a maximum of safe arrivals guaranteed for this year, yet last

year he gave reductions on quantities and replaced *all* lost in mails. He specifically points out in his literature that conditions are most emphatically worse, and mentions that a hive which in pre-war days cost 16s. now costs £7. How's that for "co-operation"? And the American breeders are in a like case; queens ranging from $2 to $10 each, and bees (no combs) at $3 a pound! (with *no* queen included).

Now, Mr. "Spectator," it's up to you to prove *your* statements. I have had my say, and await your answer with interest. —F. M. CLARIDGE.

Home *versus* Imported Nuclei.

[9868] I fear "Spectator" (No. 9855, p. 62, February 20 issue) has had little experience in buying foreign nuclei, or he would not place the home nucleus at 30s. while the imported is quoted at 35s

If he will only look at the fact that the British bees would be on standard combs, while the imported nuclei would probably be on frames that may not by any means be conveniently worked with standard hives and frames, he will realise one reason why the home article should really be worth considerably more.

He has also failed to acknowledge that the British nucleus would arrive in far better condition than the imported bees, even if they had no more brood and young bees than the latter, which frequently arrive with a large proportion of the bees dead, and many more prematurely aged by long confinement; with much of the brood (if there is any) in a poor condition.

From a lengthened experience in importing bees as stocks, nuclei, and swarms from various countries in the past, I have found that these always require a great deal of help from other stocks standing in the apiary, or there is the probability of many remaining derelicts for the best part of the season.

While "Spectator" places the value of the home product at less than the "unknown quantity," of the imported article on odd combs, and after a long and trying period of confinement, a more reasonable estimate would place the former at quite three times the value of the latter, provided the home nucleus is prepared and packed in a business-like manner. Nevertheless I should not be prepared to value the imported nucleus at anything like the 35s. he quotes.

I have repeatedly found it so costly in making up such (imported) bees as valuable working stocks that I finally discarded this method of acquiring bees some years since.—"FORTY YEARS AN IMPORTER."

Skeps and Other Sources of Infection.

[9869] I heard once an address on the Captious Critic. Such a one was described as taking part of what was said, twisting it to meet one's own supposition, and then proceeding to pulverise what the critic's own imagination had conjured up. The lecturer was a bit strong in what he said, and he added, amongst other things, that the said critic was like a snail, going all over the matter and leaving a slimy track.

I do not say "R. B. M." is one of this character, but I do think that there has not been careful reading. I am quite willing to admit that one might have written with more care. I am afraid I with haste wrote down the impressions and experiences of some years, and I express my obligation to the compositor for making out so much of my bad writing. It would appear that "R. B. M." had experience some five years ago with "Isle of Wight" disease. I took up bees again ten years ago. I have bought bees of different kinds from all parts. I bought "Isle of Wight" disease, and I have endeavoured to fight it for some years, preferring to lose 30 or 40 colonies in a season rather than stamping out the first signs of disease. I wrote about what I tried to do, and gave my own experiences, and also confirmed in some things, in so doing, the opinions of previous writers.

There is an old saying that those who live in glass houses should not throw stones. If "R. B. M." thinks my simile far-fetched, I might say, "I do know men who can fly," and might also add I wrote from "experience."

There is only one part that might have been extended. I had in my mind what someone had written as to the weakening of a vigorous queen by the production of an "A" colony, and stating that unless you re-queened your colony that gave you one or two hundredweight this year, it might die out next year. I was thinking of two of my colonies when I wrote, one of which gave over 3 cwt. (the other gave about 1 cwt.). They both failed later on. An ordinary reader, I expect, will take my suggestions as the result of experience and as what I myself do; also that I advocated the cleansing of all utensils, which includes the extractor. Many people never use an extractor. Their bees have gone under. I still desire to know why "R. B. M." states that the extractor is the chief source of infection! I have more bees than I ever have had at this time of the year, and so far as I know they are healthy. Possibly I am unduly hopeful, because an expert of some standing, and who knows my apiary, asked me last year for some frames of eggs to raise

queens. I read of a book many years ago entitled "£500 a Year by My Bees." If honey keeps at present price—and my bees are healthy and the season turns out well—I may reach this point, despite the extractor; but, all the same, I am ever willing to learn.—MERCIA.

Dutch Bees.

[9870] The following may be of interest to your readers as to whether bee-keeping at the present day is a paying proposition or not. At various times during the season 1917 I purchased about five swarms of Dutch bees at 10s. a swarm; perhaps I should say of Dutch descent, as the original stocks had been brought from Holland some time before the war. These gave me in 1917 about 90 lbs. of honey, and increased to nine strong stocks. I packed them up comfortably for the winter 1917-1918, and did not look at them again until April, 1918. I had left them plenty of natural stores, and placed about 1 lb. of Bacterol candy in each. At the spring cleaning I found everything in perfect order and the bees strong and well. During 1918 I had 44 swarms and increased my apiary to 22 hives. I sold the other swarms at an average price of 25s. I have not had any complaints about the swarms I sold, although I know that disease was very prevalent in many of the districts to which they were sent: in many instances I have been informed that they were the only bees that had done well, and have had numerous entreaties for more of them. In addition to these swarms, I took about 400 lbs. of honey, comb and run. The only precautions I have taken against disease have been spraying with Bacterol, plenty of air in hives, thorough cleansing of ground, frequent painting of outsides of hives, good thick felt quilts with powdered naphthaline, and roofs made thoroughly waterproof with oiled or painted calico. I give the bees the absolute minimum of manipulation. So far as I can see, my apiary is thoroughly healthy and strong again this year, and I do not intend to open up before some warm days towards end of March or beginning of April. I am extraordinarily well placed for bees, as my house is near common land, with heather, willow, etc., in Surrey, and there are several nurseries quite close. I seldom have to feed the bees with syrup, either in spring or autumn, and as soon as they are flying there is plenty of pollen near at hand to be gathered. As for the bees themselves, they vary much in size and condition, some of them being abnormally big and some very small. Some of the stocks are extraordinarily quiet, while others are in need of very quiet and careful handling. They have never shown any desire to rob, or fight among themselves. I have had several instances last year, when two or more swarms had issued from different hives at the same time, of weak swarms joining together and settling the queen question on their own initiative. In an average swarm I notice that, though the Dutch bee predominates, there are frequently hybrid Italian and English. The queens vary very much, both in size and general appearance. The hives are the ordinary W.B.C. pattern, mostly second-hand, that I obtained at an average price of 7s. 6d., a few being home-made. I have no skeps.

I do not pose as a bee expert, but these are the results I have so far obtained. Possibly an expert would have done better still: possibly not.—APIS.

Extract from a Soldier's Letter.

[9871] I enlisted in the Army Service Corps in 1915 as an "internal combustion fitter," and I have served in France three years with mobile workshops.

You would like to hear, no doubt, that I have salved colonies of bees from the villages demolished by shell fire; I have done that on several occasions, and given them to farmers behind the line. In 1916 I salved a skep of bees from the village of Richebourg L'avoue, near Neuve Chapelle, and kept them during the season. They were of great interest to the rest of the men, several of whom I taught how to manipulate a skep. The hives yielded a fine lot of honey, which was much appreciated by everyone, as you can no doubt understand.

I have never had any trouble to find an audience out here, for should the conversation turn on bee-keeping, everyone gives his experiences, and I have found plenty of past and prospective bee farmers.—NELSON A. ALLEN.

That Skep.

[9872] Is it not possible that the vaunted labour-saving and speeding-up methods of modern bee-keeping are the actual causes of "Isle of Wight" disease?

I am a raw amateur in the craft, but one must bring to this, one's experience of other of Nature's truths.

Wax is produced by the worker bee working under natural conditions — the "full sheet of foundation" forces the bee to restrain this, possibly essential, act and at the same time increases her labour of nectar getting, and honey making.

Meantime we rob her of her natural, and well-earned food, and supply instead a machine-made, man-handled and chemically drugged food! We watch our stocks die off by the thousand, and proceed to blame the bees' nationality, the

weather, hive coverings, or a broad-shouldered fate: any and everything, except our greedy interference with natural functions. One would not feed a race-horse on whisky, and few will deny that on a child's food largely depends its health, and mental vigour. If bees must be hand-fed in spring and autumn (and must they?) why not give them run honey—their natural food. Long before I made my start in bee-keeping, I felt that artificial feeding to make up for the robbery of their essential food must assist, if not actually cause, disease. And now that my artificially fed bees are dead (with quantity of candy close at hand) I feel I was essentially right.

The problem to be solved would seem to be how to hive our bees on bar frames without foundation, and how to obtain in this way a fair supply of surplus, without depriving our hard-working bees of the full measure of their requirements.

Commercialism may perhaps have some value—but sweating is the cause of mental and physical degeneration, the curse of humanity. May it not also prove to have been the curse of the beehive?—S. S.

That Skep.

[9873] Mr. Thompson's letter (9856) mentions my name several times, and his remarks seem to call for some further reply from me.

I am not ashamed to admit I dislike the skep, and that I look forward to the time when the frame-hive will be universally adopted. Let me add, I should like to see the modern hive more intelligently used, and the great advantages of the movable-comb system more fully exploited. Why, for instance, cannot more amateurs, with a certain amount of spare time, devote some of it to the rearing of queens on sound, up-to-date lines? In this way the race of bees could be improved by eliminating unprofitable strains until all our stocks were equal to the best we now possess. This can only be done, and many other things too, by sticking to the modern system. It will be objected that disease bars the way to all such developments. True; but this only strengthens the argument in favour of further investigation into the causes of disease, and since future progress is bound up inseparably with the continued use and development of the movable-comb system, it only renders the task more urgent—(to parody President Wilson's phrase)—"to make the bee-world safe for the frame hive."

Mr. Thompson's figures are certainly astonishing—90 per cent. as against one single case—and though such an enormous difference as this is hardly borne out by the experience of bee-keepers in other parts of the country, one can hardly be surprised at his being greatly impressed by them. If Mr. Thompson's object is simply to save his bees, no one can blame him, after his experience, if he abandons the modern hive and adopts the skep. But he does not stop there. "The mystery must be rooted out," he says, and "he is going to see where the mischief lies." I highly approve. If there is any defect in the frame hive it is most desirable it should be discovered and remedied. But how he will do it by keeping only skeps I am at a loss to understand.

Take an example. Colonists go out to a distant land and live under new conditions. They are troubled by some disease—malaria, sleeping sickness, or what not. They can avoid the complaint by coming home again, but what will they learn about it if they do? Surely the only way to discover its cause is to make investigations *on the spot*, and under the conditions which exist where it prevails. It follows that if "Isle of Wight" disease occurs chiefly in frame hives, then the frame hive is where it must be investigated.

Mr. Thompson's skeps have a greater capacity than the 10-frame brood chamber, and are larger than those in general use. This is all to the good. He appears to adopt a "hybrid" system, supering them with sections and shallow frames. Does he wish to suggest that frames are deadly in the brood-chamber, but harmless in the super? It seems absurd. As he possesses considerable skill in hive-making, I suggest in all seriousness that, instead of abandoning the modern hive altogether, he should construct a rectangular brood chamber, all or nearly all of straw, and capable of taking ten or more standard frames, and see how he gets on with these. Such hives used to appear in some makers' catalogues, though I have never seen one in use.

In conclusion, I think the Government might do more for bee-keeping. Few bee-keepers know enough of bacteriology, or chemistry, to be able to investigate the cause and cure of diseases. Much time would have to be spent on it. It is work for the specialist, and he should be adequately remunerated for his labour. The Government must have spent much money on the investigation of diseases and pests of plants and animals, some of this research work having proved of real value. Why should it not give similar aid to bee-keepers?—L. ILLINGWORTH.

Syrup *v.* Candy.

[9874] Although contrary to orthodox methods, I am inclined to think syrup preferable to candy for feeding bees in winter, for the following reasons.

Candy excites the bees more, as in order

to dissolve it they have to leave the hive to procure water. There is considerable waste, as particles of candy fall to the floor of the hive and are lost, and, lastly, it is more difficult to make than syrup.

If the bees are short of food they will seldom fail to take down warm syrup even in mid-winter; this they can do quickly and under cover, without disturbing the cluster unnecessarily. Perhaps other bee-keepers will give up their opinions.—Dr. ALLEN, Ambleside.

A Plea for Two-Years-Old Queens.

[9875] Mr. A. M. Sturges seems to be under the impression that I want to advocate the retention of all two-year-old queens. Far from it. I pin my faith to yearlings for honey production, and if he will kindly re-read my article he will find I expressed a reluctancy to depose every queen at the end of the season, for specific reasons stated. Not in every instance will bees, under natural conditions, supersede a queen which has filled the equivalent of 20 standard brood combs during the summer, and in September still accounts for three or four frames of brood. It does happen in some seasons, but as one will know one's queen by size and colour (mine being Italians, or crosses from them), a mistake about the age and appearance, when packing up for winter, is out of the question. Nature does not recognise the sulphur pit; her rule is the survival of the fittest, and a two-year-old queen with such a record as mentioned above would in due course lead off the top-swarm next spring. However, I do not give her this chance, and when, after taking an artificial swarm from her, I put her to other use, I fail to see how I am running in direct opposition to Nature's ways. That Nature lends her aid to my plan, or method, will be evident from the following notes taken from my 1918 diary, and which will speak for themselves :—

Hive No. 6 (1916 queen).—May 19, started colony on four frames of brood; May 21, added one frame foundation; May 25, added four frames of brood; May 29, added one frame foundation; May 31, supered four shallows; June 9, filled up to eight; July 3, put second super with eight shallows under first. (Clover commenced flowering on June 12, but temperature too low for much nectar secretion; lime trees in flower on July 8, but rain spoiled bees' working chances.) July 30, removed supers (weights, first 32 lbs., second 13 lbs.); August 31, re-queened, and as bees very strong, removed two combs sealed brood and left on eight combs for wintering.

Mr. Sharpe's assertion that the queenless bees would rear queens from larvæ is perfectly correct, *if they have a chance to do so;* but if Mr. Sharpe will kindly refer to my notes he will find that I do not give them that chance. I provide the artificial swarm with combs of capped brood, taking care that all cells are sealed, and none contain larvæ; should there be any, they must be picked out, and insert in *centre the frame of eggs on which comb only queen-cells will be allowed to be raised.*

As regards Mr. Sharpe's contention that there are no young nurse-bees with the swarm, to be accurate I should have said sealed brood with adhering bees; but, as a matter of fact, this does not signify much, as there will be plenty of nurse-bees hatching from the capped combs almost as soon as put in.—O. PUCK, Chingford.

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

W.B.C. HIVES.—A few very good ones for disposal.—GEARY, Enderby, Leicestershire. o.20

TWO GROSS ⅞ W.B.C. Ends, new, 5s. 9d., post free.—MISS K. ADAMS, Dunton, Biggleswade, Beds. o.21

REMARKABLE Strain English Bees; unbroken strain for 60 years; have proved immune to disease when all others in neighbourhood have perished; prime Swarms, 35s.; buyers find swarm boxes.—JEFFREY, Waterworks, Kirkby-on-Bain, Lincolnshire. o.22

WANTED, strong Stock of Bees, Italians or Hybrid, for mid-April. Guaranteed free from disease.—Price to J. PALING, 57, Huntingtower Road, Ecclesall, Sheffield.

TWO 20 lbs. of splendid Light English Honey in screw-cap bottles, carriage forward, £5—WILLMOTT, Apiarist, Higham Ferrers, Northants. o.24

Seasonable Hints.

Days on which bees are able to fly will now become more frequent, and any alteration in locality of hives in the apiary, if not already done, should receive attention at once. The hive should face south-east, and the site should be as dry as possible. If it can be arranged, it is advisable that the hives get some shade from the hot summer sun from about noon. Some people have an idea that bee hives should be put in the hottest part of the garden, but this is a mistake as they become overheated, and the bees are more likely to swarm. We have seen the combs become so soft in hives that were placed in the angle formed by a hothouse and a wall facing south that they collapsed. In connection with this subject a reader suggested the other day that it is not good for hives to be too sheltered during the winter. For instance, an angle, as mentioned above, say, in the corner of a walled-in garden, with a south-easterly aspect, so that the hives were sheltered from the north and east. It is a well-known fact that bees will stand a very low temperature if the air is dry. In this country most of our damp weather and rain comes with a south-westerly wind, while that from the north and east is usually a drying wind, so that in a position open to south and west, and sheltered from north and east, the hives would be exposed to damp winds and sheltered from drying winds, the result being that the continued damp would tend to lower the vitality of the bees and render them liable to the attacks of disease. There is probably more in this contention than would appear at first sight. Local conditions must be considered, for very different treatment will be needed where the apiary is in a cold bleak position at some elevation from that in a sheltered valley. We notice several correspondents lately have deprecated "coddling" bees in different ways, and in this matter it would appear the aim should be to protect hives from the full fury of a wintry "Nor-easter," by some kind of a wind break, but to still have the advantages of these drying winds playing round the hives after a spell of wet weather.

"Do not let your bees starve." In the colder parts of the country candy should still be used for feeding. In the south and south-west syrup may now be given. This should be thin, about ¾ pint of water to each pound of sugar. Artificial pollen may also be provided by sprinkling flour on some shavings, or wood wool put in a box, and placed in a warm sunny spot, and protected from wet. Symington's pea flour is the best, or a mixture of pea and wheat flour may be used. Floorboards may be cleaned down and disinfected, but leave the regular "spring cleaning" until next month. Provide a constant supply of water that can be kept free from contamination. Water contaminated by disease germs is probably one of the most fruitful sources for the propagation of "Isle of Wight" disease.

A Dorset Yarn.

"Rejoice my little merry mate,
The blithesome spring is coming,
When thou shalt roam with heart awake
To hear the wild bees humming."

This was pulled off the calendar last week by our little grandchild, who asked the whole household to read it for her until she can remember it all. It was suitable for the day, as the yellow stamens on the male willow trees were to be seen on the road sides, *Prunus Pissardi*, the copper-leaved plum, was also in bloom, peaches showing their flesh-coloured blossoms, all show us that springtime is close at hand. Days are lengthening, one can work from six till seven, no seven-hour days for the tiller of the soil; law will compel him to give the staff a weekly half holiday, but the master sees work that must be done ,and gets on with it. Our bees work the same, no seven-hour days' work for them; all hours when weather is favourable they work their hardest, that is what we shall have to have again (as my son tells me of Egypt, each farm or a small holding at £3 per acre, which goes to the Government, to pay interest on the vast sums paid for the irrigation schemes that have made the country the richest in the world—three crops each year). Labour troubles would not be, if each grew his own food, and had the results of his own toil. All wealth comes from toil. As I before stated, "Toil is the law," but where toil gives pleasure, because the toiler is free, no time-keepers or inspectors would be needed. My son speaks of the number of bees in Egypt; he thought they seemed larger than ours (books say they are smaller), there were not so many in Palestine, but towards Damascus there were more. He has been all through that country with the Camel Force with a week's rations rounding up the Turks until they were brought to their knees, and had to give in or die. He has given us a description of the Holy Land, its fertile valleys, its arid wastes and rocky hills. The corn

grew to a great length in the valleys through which the armies of the Empire marched, and bivouacked at night. This was the land that "flowed with milk and honey"; may it be so again under the rule of Britain. It was of this land that David of old sang, "The valleys stand so thick with corn that they laugh and sing."

Mr. MacPhail, our horticultural instructor, says his bees are carrying in pollen, as mine are now, but the colouring of it is so varied one cannot place from what it comes, as so many flowers are now open; but the wealth of pollen some flowers give must be great. To get so much they fly away from the farm: it is, perhaps, well, as we have thrown lime largely over the bush fruits as a preventive of disease. Lime is of great value to the land as well. Many of our best apples, like Cox's Orange Pippin, only thrive well when lime or chalk is present in the soil. We have found this out in one field; at one end there is plenty of chalk in the soil, but the other end very little had been added to it, and they do not do so well.

Now the soil is getting drier, work goes smoothly on, but the days and days of wet must keep many behind with cropping. We are planting out autumn-sown onions in lines 2 ft. apart, with violets alternately. Onions pay for the labour; they are harvested in early August, then the violets flower in autumn and winter. We try to get two crops each year out of the land. Onions give a lot of flowers when left for seed. We always plant a few in the young fruit tree lines which run to flower. Bees are on them in great numbers, but the honey never tastes of onions, or we have not found it so. Onions grown in this way mostly weigh 12 to 20 ozs. each, if the soil is well tilled. At 3d. per lb. these give good returns, and they are cleared off before the violets get large enough to impoverish them. Violets, when well established, are gross feeders, and if planted thickly soon starve each other, if the soil is not in good heart. We have close to our hives now 2 acres of large flowering violets; though planted 2 ft. apart there is scarcely room to walk without crushing the flowers: these will flower on till May, when we shall prepare the soil for mangels; land must never be without a crop if it is to be any use to the man who tills it.—J. J. Kettle.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of February, 1919, was £277,691. —From a return furnished by the Statistical office, H.M. Customs.

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

313. How may the age of a larva be determined?

314. What system of renewal of combs in the brood chamber is advised?

315. What outside indications in springtime would show that a colony is a strong one?

316. Why is it inadvisable to leave a rack of sections in a hive until every section is fully sealed over?

317. What is known of "the swarming fever"?

318. What are the drawbacks to the use of smoke for clearing bees from a rack of sections?

319. Some bee-keepers sometimes raise the brood chamber slightly and leave it so for a time on small wooden supports. What is their object in this, and how far is the plan reliable?

320. Compare the utilities of "large" hives with those of "small" hives for production of (1) section honey and (2) extracted honey.

321. What results from killing the queen of a strong colony in the time of a honey flow?

322. Enumerate the conditions which govern the secretion of nectar.

323. Describe the nervous system of a bee, assisting with a sketch.

324. Make notes for a 15-minute lecture on "Bee-keeping in the Past as a Guide to the Future."

J. L. B.

How to Get Rid of "Foul Brood."

All apiarists know, at least in name, this pest which is common not only in several parts of France, but also in all parts of the world. Its ravages are most serious. I know of entire regions, privileged as regards both climate and flowers, where bee-keeping has become practically impossible, owing to the extension and propagation of this plague.

Plague is no exaggerated word for it: foul brood may be compared, keeping within proper limits, with Indian plague, cholera, Spanish influenza, or—leaving alone human diseases—with pebrine and muscardine that threatened, some 50 years ago, to destroy for ever French silk industry. But Pasteur was on the look-out, and thanks to his indefatigable work and patient researches a remedy was found.

Our apiculture is seriously threatened

to disappear, or its progress completely fettered, if we cannot manage to get rid of this dreadful "foul brood" that makes out of the best bee-hives, or the most flourishing apiaries, ill-smelling cemeteries.

Our apiarists, generally speaking, have but small information, vague and imperfect data on this question. Things do not stand so abroad: Cheshire, in the year 1885; Maasen, 1907; Dr. White, of Washington; and Professor Zander, 1910, discovered and studied *streptococcus apis*, *bacillus alvei*, and *bacillus larvæ*, three microbes which bring about, under different forms, the illness commonly called "foul brood," or *blapsigonia*.

This question has remained uninvestigated in France. Nobody has hitherto studied the malady, and, of course, no sure remedy has been discovered so far.

In the year 1910 Professor Zander wrote:— There is no efficacious remedy; a way through which germs could be killed without injuring the bees does not exist; money spent for this purpose is simply wasted. There is but one remedy, and that is fire. When a swarm is thoroughly infected, destruction of the hive by fire is an absolutely necessary measure. On the chosen evening, the entrance-hole of the hive must be stopped and the whole swarm put to a state of anæsthesia with sulphur. The next day, dig a hole in a retired corner of the garden, lay therein some straw and dry wood, place the whole bee-hive on this after taking out the reserves of honey, which must on no account be given to other bees. When all that is to be destroyed has been brought together, pour petrol over it and set fire to it. When all has been thoroughly burnt, carefully fill the hole."

This is rather too drastic a remedy, and I very much doubt if it would suit most apiarists who would be called upon to use it. To recommend such a cure admits one's defeat, and declares one's powerlessness.

There is a better thing to do, and here the question becomes indeed interesting.

During a recent furlough which I spent on the Cote d'Azur, in that enchanted sea-side country strewed with flowers, where carnations, roses, mimosas give the land a matchless beauty, I was fortunate enough to renew old acquaintance with an apiarist whose name is well known to many readers of this journal— Mr. Ph. J. Baldensperger.

Mr. Baldensperger may be called an apostle of bee-keeping. A long life of learned workings, devoted to the study of bees, makes him an uncontested master of the subject. He has travelled in nearly all parts of the world, speaks and writes English, Italian, German, and Arabic as well as French; so that he certainly is one of the best qualified apiarists of our times, the most learned and enthusiastic one I know of.

Moreover, his enthusiasm is catching. During our walks in the environs of Nice our conversation often came to the subject of foul brood. Mr. Baldensperger knows it well, for he had to suffer losses through it, and has noticed its effects; but, in spite of his thorough bee-keeping knowledge it remained for him incurable.

In the course of his long researches he had the good fortune to come into contact, at the Société Naturaliste de Nice, with a learned and distinguished biologist, Mr. A. Prudhomme, of the Paris and Strasburg Universities, a former scholar of the Institut Pasteur.

For such a learned man as Mr. Prudhomme the question of foul brood could not fail to be an attractive one. He read and studied all that had been written and done about that subject, in order to well master it. He then applied modern methods to cultivating the three microbes which we have named above, and he succeeded, after patient researches, in cultivating, isolating, and fixing them.

The microbes of foul brood develop in the intestine of the larvæ: they may be compared in all respects to those of Eberth (typhoid fever). Now, typhoid fever can be treated in accordance with two methods: ordinary vaccination, or entero-vaccination, *i.e.*, vaccination absorbed through the digestive tube.

Mr. Prudhomme succeeded in bringing out a polyvalent *entero-vaccination*, *i.e.*, a virus that can be opposed to the infection brought about by the several bacteria of foul brood. I quote here his own words: "The cultivation-grounds to be chosen were a most serious difficulty, but the previous workings of the above-named authors had prepared the way, and so I was able to cultivate on choice grounds for every one of them the various bacteria in question, including the bacillus larvæ, the cultivation of which had remained practically impossible heretofore. It was then necessary to stabilise these cultures. This has also been carried through, and already for months I have been able to bring out a polyvalent virus that is satisfactory in every way. The virus, enclosed in a glass ampulla, should be mixed with a kilogramme of honey or of sugar-syrup, and this should be given as food to the diseased bee-colony. The contaminated larvæ are lost anyway, but the infection ceases, the new larvæ being fed on this mixture do not catch the disease, the laying of the queen does not stop, the active life of the swarm is carried ont, and as the population keeps on a sufficient level, the plundering of the hive is avoided.

After a fairly long time, generally over one month, the effects of the illness have disapeared."

Mr. Prudhomme's experiences may be considered as quite conclusive; but, according to his wish, these experiments should be repeated as often as possible, not only in the several regions of France where foul brood has spread itself, but also in foreign countries.

Mr. Prudhomme remains at the disposal of all apiarists, and will forward them free of cost the virus he has brought out, the making of which he keeps secret. All necessary information will be given. In return, bee-keepers who try the remedy are requested to kindly report their observations and the results obtained.

By multiplying such tests, and renewing them in the most varied situations and circumstances, we may hope, with the help of all interested, to succeed in wiping out the dreadful plague that threatens to annihilate a most important source of our national riches.

Virus can be obtained from Mr. Prudhomme, Chimiste Biologiste, 1, Rue Cotta, Nice (Alpes-Maritimes), France.

LIEUT. ALIN CAILLAS,
Ingénieur Agricole, Chimiste de la Société Centrale d'Apiculture.
Etat-Major de la Division, Secteur Postal 41 *(France).*

Donations for Royal Show.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

	£	s.	d.
Amount previously acknowledged	16	13	6
Mr. W. F. Reid... ...	1	1	0
Mr. C. S. Morris ...	0	10	6
Mr. W. Wadham ...	0	5	0
Mr. F. J. Cribb... ...	0	5	0
Mr. J. Ikin	0	2	6
Mr. J. Birkett	0	2	6
Mr. A. E. Warren ...	0	2	0
	£19	2	0

Notes on the Egyptian Bee,

APIS FASCIATA F

By LEWIS H. GOUGH, Ph.D., F.E.S.,
Cairo.

There is no evidence whatever that the Egyptian bee any longer occurs in the wild state in Egypt. In a country where trees are few, and forests non-existent, it is difficult to find hollow trees which might be suitable as a habitation for the insects. Swarms must frequently be lost by bee-keepers, but evidently fail to establish themselves.

The Egyptian worker bee is somewhat smaller than the workers of the species usually kept in Europe, and the colonies are also smaller. A large swarm may measure a pint; a fairly populous hive may cover about seven or eight standard frames.

For English bee-keepers who desire to experiment with the Egyptian bee, the following notes may be of interest.

These bees build out European comb foundation, and breed in the cells formed on it, although their own normal cells are 10 per cent. smaller.

It is probably advisable to use a smaller sized frame for the Egyptian bee than for the European species. A frame of about seven or eight inches square would probably be about right. About nine or ten of these would be more than sufficient for the brood chamber. Using a smaller brood chamber than that of the usual English 10-frame hives, one can induce the bees to work in the super, which they otherwise refuse to do.

Spacing will also want attention. The standard spacing used in Europe is too great. When left to themselves the bees always space their combs one and five-sixteenths inches (33 mm.) apart. They will, of course, build on frames of British standard size and spaced with standard W.B.C. ends, but they do not cover the frames as well as they might, and there is a very great tendency to build out little brackets from the face of the combs, on to which combs are built. This, of course, very seriously disturbs the symmetry of the other combs, and is generally untidy. Also, bridges are liable to be built across the space between the two combs. When left to build in a native hive which has no frames the spacing is always exact, and the combs nearly always perfectly flat. Distorted combs in such conditions are only built where some obstacle in the interior of the hive forces the bees to depart from the normal.

The Egyptian bee is very prone to swarming, no matter whether its hive is overcrowded or no. The swarming season in Egypt is from February to May. Fre-

quently no real swarm is produced, the bees evidently destroying the queen when she gets old, and raising a crop of young queens before swarming.

Contrary to expectations, a very large number of queens is raised by this small bee, whose communities are small. Over 360 queen-cells were counted in one hive, this being the maximum number which has come to the writer's notice. Seventy queen-cells at a time is quite common. When an after-swarm leaves such a hive, it always contains several queens; when hiving, it becomes necessary to reduce the number to two or three. The writer has removed forty from a small swarm. If one does not remove a sufficient number of queens, the stock, after being hived, will continue sending out successive after-swarms, each with one or more queens. It is on record that a second afterswarm of this nature gave off a third, whose total size was that of a very small hen's egg This little swarm contained a single queen, and, placed in a nucleus hive, developed later into a fair stock. If only two or three queens are left with the swarm when hived, the first one mated manages to establish herself, and there is less liability of the hive being dequeened owing to accident on the nuptial flight.

It is useless trying to work with standard queen-excluders when dealing with the Egyptian bee of pure breed. Virgin queens pass readily through the openings, and even gravid queens, when full of eggs, manage to get through. The drones alone are kept back by normal queen-excluder, which can thus be utilised in making drone-traps.

The amount of honey gathered is small, corresponding to the size of the individual bees and of their community.

In Egypt drones are retained in the hives all the year round: a slaughter of the drones sometimes takes place at a time when drones are being reared.

In Egypt the bees do not go torpid in winter. They have a period corresponding to the hibernation of the European breeds, but here it is due to the incessant and persistent attacks by the Oriental hornet (*Vespa orientalis*), which appreciates as food the bees, their larvæ, and their honey. These pests become very abundant after the first week of September, and are most numerous about the middle of October. Queen hornets appear at the middle of November, after which the hornets dwindle in numbers and become of no importance by the first week of December. During the hornet season it is necessary to close down the entrances of the hives, leaving just enough room for a worker bee to pass, or to secure them with a strip of queen-excluder zinc. Even so, one's losses will be great. At first the daily cleansing flight takes place normally, but as the season advances it almost entirely ceases, or takes place at dusk, when the hornets have retired for the night. Throughout this period a little brood is usually present, even under these severe conditions.

The Egyptian bee is extremely prone to produce laying workers; a stock having done so is best destroyed, as it will never accept a new queen. The following observation may be given as tending to prove that laying workers leave the hives. In order to utilise or to rescue as many workers as possible from a hive with laying workers, its position was changed at midday with a nucleus hive containing a young queen. Next morning the young queen was dead in the hive, and a laying worker had placed a number of eggs in some of the cells.

The good side of the Egyptian bee in Egypt is that it has no diseases whatever. Foul brood is not known in Egypt, nor is the "Isle of Wight" disease. Dysentery apparently does not occur. The only trouble is with waxworms and hornets.

The Egyptian bee hybridises readily with other species. We have had hybrids with Cyprus bees and with Californian gold bees. The hybrids are larger than the Egyptian and conform in size of the stocks and of individuals more with the European bee. They consequently give better returns. Hybrids appear to retain the instinct to raise queens by the hundreds. Pure Egyptian stocks very determinedly oppose the introduction of foreign queens. In introducing it has been found that at least four days' captivity are requisite for the foreign queen. Even with a caged foreign queen in the hive the Egyptian bees frequently start raising new queens if any brood has been left them; if no brood has been left, it has occurred that a worker started laying before the fourth day, and that the whole stock was lost for this reason.

On another occasion, when a hive of pure-bred Egyptian bees was dequeened, and had a closed cell with a Gold-bee pupa introduced, the bees first attempted raising new queens of their own race. The cells containing these larvæ were destroyed on the fifth day after removing the queen. Eleven days after removing the original queen a new queen-cell was observed with a half-grown larva in it. There was no laying worker present, and the origin of the egg from which this queen larva was raised gives rise for speculation. Unfortunately this larva could not be allowed to develop further, as it was desired to replace the Egyptian

by a Gold-queen, and the risk of allowing the bees a choice between one of their own breed or a foreign queen could not be accepted. Similar cases observed by other workers with bees of other breeds are on record.

Against this it may be stated that there is no difficulty whatever in introducing almost without precautions tested Egyptian queens into stocks that have been made queenless a few hours before.

It remains to be seen whether European stocks show the same natural antipathy to introduced Egyptian queens.

Egyptian-Italian, or Egyptian-English hybrid bees would be well worth testing under English conditions for resistance to disease, remembering, however, that the question whether the pure-bred Egyptian bee is resistant has not been solved. The fact that diseases do not occur in Egypt does not of itself prove any superior immunity on the part of the bees.

Bucks. County Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of the Association was held in the Congregational School, Aylesbury, on Saturday, March 8, 1919. Mr. C. G. Watkin was voted to the chair. There was a small attendance. The report was adopted. In moving the adoption, it was stated that the membership was, on January 1, 1919, 242, since increased to 250, as against 177 on January 1, 1918. A full statement was also made with regard to the Bee Committee, which had been formed on the proposal of the Food Production Department. Applications have been received for 88 shares in the Restocking scheme, nearly all from members of the Association, and but for the Association the Restocking scheme would not have materialised. A long discussion ensued.

The Earl of Rosebery, K.G., was elected President for 1919 in the place of the Earl of Buckinghamshire, who retired because he thought that there should be a different President in each year. The vice-presidents, auditor, treasurer and hon. secretary were re-elected. Messrs. J. M. Neighbour and J. R. Valiant were added to the Committee.

A hearty vote of thanks was given to the retiring President, the Chairman of the Committee, the Hon. Auditor and Hon. Secretary, the District Hon. Secretaries, lecturers and experts, and to James Lee & Son, Ltd., for the loan of appliances.—*Communicated.*

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Hygienic Floorboards.

[9876] Dr. Abushâdy's contributions to the B.B.J. are usually interesting to me, and that part of his last article (page 39) which dealt with what he calls the "hygienic floorboard" was especially so. I have made, experiments with, and used these floorboards for eight years. I have just completed two new hives, and have fitted them with this type of board also. From the bees' standpoint, I should not like to be dogmatic as to the benefits obtained, but for *me* they have certain advantages, and I continue to make them. They certainly keep the hive in a drier condition in winter, and cleaner in summer; but I have been unable to detect any effect on swarming or in checking disease. My apiary of natives was wiped out by "Isle of Wight" disease in 1912, and half of the stocks which succumbed were on these boards. They died as readily as the others.

It is a simple matter to make a ventilated or "hygienic" floorboard for the single-walled hive, but it is quite a different matter where the W.B.C. type is concerned. In this provision has to be made to carry the heavy weight of the internal parts, and this provision introduces complications and expense. Slides and drawers I found would not answer, owing to damp and propolis. Swelling of the wood, dust and dirt caused them to stick, and then——

With regard to the doctor's idea (I take it that it is only such at present), as illustrated, I am afraid this will not answer. The perforated top floor, unless frequently used, will be propolised, and there is no permanent remedy for this. The absence of ventilation between the two floors will allow moisture to settle there in winter, and swell the boards and cause them to stick. This can be partially remedied by supplying a little ventilation between the two floors—say, in the front part of the frame, under the flight-board. This will necessitate a larger space between the two floors. Drawing the bottom floor to check swarming, as he proposes, will *let in the light*, and the bees will defeat his object

by blocking the zinc above. They will not have light under the brood nest. A false bottom is the remedy for this. The idea is, of course, only applicable to the single-walled hive.

Hoping Dr. Abushâdy will accept these kindly criticisms and suggestions in the same spirit as they are given.—W. H. White, Harlington, Beds.

The Insulator Hive.

[9877] Had Mr. Manley troubled to conduct some careful research on the value, as heat-preservers in winter, of hive walls containing dead air space divided by good insulating materials, he would not have questioned for a moment the wisdom of applying this principle to the *Insulator Hive*. Surely he ought to realise that heat loss is not limited to an upward direction, as seems to be suggested in his letter (9860). I cannot understand what he means by saying, "In this hive no provision is made for a non-conducting space, either below the brood chamber or above it," seeing that the lower *floorboard* of this hive is constructed on the same principle as the side walls, and therefore is more protective than any floorboard in existence, and considering that the usual protective packing above the brood chamber will be applied. In fact, this hive possesses an insulating wooden quilt, which I did not mention, as I was simply referring to certain points and was not giving a full description of any particular hive.

As to the *detention board*, it is obvious that the objections which Mr. Manley advances only apply to bad construction, and not to the principle advocated. Moreover, in the presence of well-accommodated, detachable floorboards, permitting of the easy and regular removal of dead bees and *debris* during winter, the manipulation of the detention board will be *rarely* required. The value in winter of this protective board, which confers on the hive the advantages of the detention chamber without its disadvantages, is self-evident. It is also a help in preventing spring dwindling, and in frustrating robbing in the fall. In place of this sliding board, a *central hinged board* might be used if preferred. This alternative was presented to the manufacturers. Both methods, however, have their advantages and disadvantages.

Regarding the *sloping roof*, which does not allow rain or snow to fall off from it on the porch, and which, when properly constructed, is less likely than the gabled roof to be blown off by the wind in exposed districts, and, moreover, is serviceable during the season in hiving a swarm and for similar purposes, I regret it is difficult for me to reply to the dogmatic criticisms of Mr. Manley, although I appreciate his other constructive criticisms, which naturally could be examined and answered.

In his final remarks your correspondent refers to the conditions of successful wintering. With the first important condition no sane bee-keeper will disagree; but the rest of the conditions given, which represent the orthodox practice of the present time, are easily answered by a review of the *unsuccessful* wintering here, which is by no means the consequence of infection alone.

I conclude by emphasising the value of a well-managed *indoor winter apiary* for those interested in bee-keeping on a *large* scale (especially in exposed, cold districts), and whose winter losses in one year would probably cost more than the establishment and complete fitting of such a winter apiary with simple and sanitary hives. At the present time no one will entertain, owing to industrial difficulties, erecting such an apiary, but as soon as the national life becomes more or less stabilised, there will be no difficulty in constructing these apiaries and in completely fitting them at a cost of not more than £400 per apiary accommodating at least 200 hives, which is far less than the potential value of 100 colonies lost in one year by the big apiarian, and all attributed erroneously to microsporidiosis.—A. Z. Abushady.

Co-Operation or Profiteering?

[9878] Mr. Claridge did not waste his ink and paper in pleading for a better pay for the poor British apiarist, and I shall not say a word about that. On the other hand, it seems to me that he is not aware of the existence at the present time of no few professional profiteers who are claiming the most noble and national co-operation in so far as bee-keeping is concerned, and, whilst recruiting several novices, they are selling their poor nuclei to this increasing class of recruits at exorbitant prices, which could hardly be credited. These professional profiteers generally avoid advertising, but they have their tongues and their agents.

I am promised two standard frames of brood for each of my ten nuclei—1919 Penna queen, healthy bees, and delivery in May. I did not say that this is an unlimited source of supply, but I can refer Mr. Claridge to one of the food production publications dealing partly with bees, in the March issue of which it is mentioned that they are "undertaking to supply during this spring an appreciable number of nuclei, headed by splendid fertile Italian queens from one of the most famous breeders in the world of Italian queens. . . Each nucleus on three frames

is quoted for no more than 35s." It might interest him to further investigate this source of supply, as I will grant him the possibility that I have been specially favoured. But this offer to which I refer, if I rightly understand it, approximates to my opportunity.

The advance in price of all industrial products is largely governed by the cost of living; and, according to the *Daily News* Rome correspondent, "the cost of living in Italy is about 50 per cent. higher than in France, and nearly 75 per cent. higher than in Great Britain." Signor Penna is consequently justified in advancing his price, but it is difficult to understand why should a very excessive advance in price be instituted here by some apiarists, and why should Mr. Claridge object to my remarks about those veiled profiteers who are doing no service to honest bee-keepers. I can only conclude that, in his over-occupation, your correspondent has not yet heard of these unpleasant practices which are growing daily.—SPECTATOR.

Co-Operation or Profiteering?

[9879] Replying to F. M. Claridge (9867), he concludes by saying that "it is up to 'Spectator' to prove his statements." Perhaps it would be as well if Mr. Claridge proved his own before rushing them into print. The first I take is that of fitted frames, 1s. 3d. each. The *retail* price of foundation, according to advt. on front page of "B. B. J.," is 3s. 4d. per lb., exactly 5d. per sheet; frames 20s. per 100, 2½d. each; metal ends, 4s. 6d. gross, 1d. per frame, wire and labour 2d., making at the most 10½d. The next item, although ascribed to Signor Penna, is evidently endorsed by him. Hives, pre-war 16s., now £7, is too ridiculous to criticise. The next is American queens, from 2 dollars to 10 dollars. On referring to the current numbers of *American Bee Journal* and *Gleanings*, I find that in almost every case the prices are from 1 dollar 25 c, and in some cases as low as 75 c, and I fail to find any higher price than 4 dollars for the best selected "breeder." Bees by the pound are mostly 2 dollars and 2 dollars 50 c.

The heading to Mr. Claridge's letter is "Co-operation or Profiteering." I wonder which of these the writer has in mind when he offers virgin queens at 10s. 6d. each? Anyone with any experience of commercial queen rearing is able to produce these at a profit at 3s. each, if he knows his business, and bred from the finest queens it is possible to procure. "Nothing like leather" is evidently superseded.—T. SHARPE, Beast Fair, Snaith, Goole.

A Novice's Notes and Queries.

[9880] I have read the B.B.J. for twelve months, and found it most useful and interesting.

I started bee-keeping in 1917, as a beginner; ordered a stock of pure Italians to be sent in the March or April from a good firm, but did not receive any till the end of May, when a very poor lot arrived. I had joined the county Association, and the expert duly arrived for a few minutes late one evening to see that all was right. Then I started off to make friends with my little neighbours alone; but they refused to be friendly, and treated me very badly the whole summer. They waited till I was away one day, then swarmed out and got away. Those left behind continued to swarm the whole summer, on and off, and nearly drove me crazy by having to watch them, and "ring them down" so often that I am afraid the neighbours thought I had a "bee in my bonnet"! When the end of the season came, there was not a bit of surplus honey, though the expert had put on a box of shallow frames and one of sections above that, and there was very little honey in the brood chamber. However, there were swarms of bees, so I set to work to feed them up, hoping for better things next year. They wintered well, and in 1918 I expected great things; but, alas! the queen got up through the excluder into the shallow frames and spoilt them for the first lot of honey, and the bad season later on spoilt the next lot, so altogether I only got 30 lbs. of honey (surplus). However, I was pleased with that, and had bought a lot of useful experience. Now I start 1919 full of hope again.

Last summer I made an artificial swarm, so now have two hives, and when I peeped through the window of the candy box yesterday was glad to see that all was well so far. I got the idea of girders and candy boxes from the B.B.J. Now, this year I should like to try the skyscraper system with my original stock, if some kind friend would tell me how to proceed. I have a spare brood chamber filled with frames of comb that I can use for the second nest. I would like to know just how to proceed. Are two queens required, and the nests divided by an excluder, or does one queen have access to both brood chambers?

Ought I to have a new queen, as the present one will be two years old in July? A bee-man in the district rather damped my ardour by saying that the skyscraper system was bad for the bees, because it wasted their time and tired them out by having to carry their load of honey so far up the hive when they had arrived inside with it. I should be so grateful for a

little advice, for I love my bees and want to help them all I can. May I thank Mr. Kettle for his great help.

Wishing you every success in 1919.—A Bee's Friend.

[Only one queen is required for each hive. You had better requeen as soon as possible, as it is doubtful if a two-years-old queen will be able to keep up the population necessary for a large hive. Don't worry about the bees getting the honey to the top combs. They will attend to that business all right. Is your "beeman" quite certain that the bee that brings in a load of honey carries it to the top of the hive?—Eds.]

That Skep.

[9881] Though I am not a skeppist, I have been very interested in the correspondence appearing lately on this subject.

From all the evidence given it seems that skep bees are not so liable to attacks of "Isle of Wight" disease.

Does comb-building have anything to do with this?

Is *comb-building necessary* to keep bees fit?

Does it help to keep other organs of the bees in a healthy condition?

I should like to hear readers' views on these questions; also, whether any experiments have been made in this direction?

At any rate, I think those who keep bees in frame hives might try the experiment of imitating the skeppist in letting the bees build more combs, not using as much foundation. (I've had some very good combs built in this way from starters, and if a lot of drone comb *is* built—it can be run down for wax.) Also, to exercise a more vigorous weeding out of old brood combs—in fact, see that they never do get old!—"Oscottian."

[While we quite agree with the advice in the last few lines, we do not fall in with the suggestion to use starters. There is too much waste, not only in the building of drone comb, but in the rearing of drones.—Eds.]

Honey Recipe.

[9882] I am very pleased to see the recipe for inflammation and fever given by Mr. Claridge in the Journal, as I am sure if the medicinal properties of the elder flower were more widely known and used these ailments, and the so-called influenza, which has become such a serious matter, would receive a decided check.

I have reason, personally, to be grateful for this valuable remedy, and have seen its beneficial effects on others also.

A more general knowledge of the value of honey, in conjunction with medicinal herbs, in the concoction of simple home-made preparations would, without doubt, bring about very substantial results in dealing effectively with many of the ills which flesh is heir to.

I have found a preparation of horehound, which is a herb of very easy cultivation, and honey an excellent remedy for a cold on the chest.

Make in the same way as the prescription given by Mr. Claridge, omitting the peppermint and adding more honey, the horehound being bitter. Take a teacupful three times daily.—Albert N. Hopkins.

Honey Recipe Quantities.

[9883] In your issue of March 6 you give a recipe for honey caramels, the ingredients for these are given in cupfuls and squares. What is a cup? Is it a tea-cup, coffee-cup, breakfast-cup? What is a square? If, as all receipts should be, these were stated in weights, we could all make these delicious delicacies. Without accuracy we cannot progress. Can you supply the weight of each ingredient used?—R. Oswald, Fordham.

Reply.—The recipes are American, and were taken from "Gleanings." A great fault in American recipes is they are so indefinite, and for this reason we do not give more of them. We should take "a cup" to be a medium-sized one holding about a quarter pint of liquid, but we are unable to define "a square of chocolate," probably ¼ lb., the quantity might be varied to suit one's taste, as the degree of hardness of the caramel is determined by the boiling.

F. H. Ellis (Surrey).—*Painting hives.*—First treat all knots with a coat of "Patent Knotting." Then apply a coat of "priming," made by mixing white lead, red lead, a little patent driers, or terebene, with turpentine and a small quantity of raw linseed oil. The paint should be rather thin and light salmon colour. Put on a *thin* coat, and don't be afraid of using the brush. When this coat is thoroughly dry and hard, fill all cracks and nail holes with putty, and give a coat of paint of the desired colour. Any oil and colourman will supply you, but insist on having paint made from best white lead; don't purchase the tinned stuff. If you have a wheelwright or painter in the town get him to mix it for you. A second coat—making three with the priming—should be given when the previous one is dry

and hard. The secret of good painting is to put on a thin coat well brushed on to get it even, and allowing each coat to get thoroughly dry and hard before applying another.

M. T. (Middlesex).—*Guaranteeing bees to be healthy.*—(1) It is not usual for a purchaser to ask for a guarantee that bees will not develop disease within a specified time, and we think no bee-keeper would be so foolish as to give such a guarantee. (2) This was a special arrangement. We do not recollect hearing of any other vendor of a swarm undertaking to bear the loss if the bees should abscond.

W. D. (Walberswick).—*Making candy.*—The recipe we use is as follows:—Use a brass or enamelled iron pan, put in one pint of water, allow to boil, then stir in 6 lbs. of loaf crystallised cane sugar, set the pan beside the fire (not on it), and stir occasionally until the sugar is all dissolved. Then add one-half teaspoonful of cream of tartar, and place the pan on a brisk fire; stir without stopping until the mass begins to boil. Allow to boil for half a minute or so, then withdraw from the fire, and with a spoon drop a small quantity on a cold plate. If the sugar does not stick to the finger when pressed into it and withdrawn it is boiled enough. If sticky it must be boiled another minute, and again tested. If you have a sugar boiler's thermometer boil until the temperature reaches 235 deg. Fahr. When boiled sufficiently, allow it to stand *without stirring* until the finger may be kept in it without scalding, then stir briskly until the mixture stiffens and turns white. Before it is too stiff to run freely, pour into suitable moulds or boxes. Any medicine should be added when stirring.

W. A. Tall (Manea).—*Insurance of bees.*—You cannot insure against loss of bees by disease, nor does the B.B.K.A. recompense their members for such loss. You can only insure against liability to third parties for damages to persons or property occasioned by bees from the insured apiary outside such apiary.

Mrs. Alf. Wood (Cheshire).—*Clover for bees.*—The best kind is white Dutch clover.

"Forester" (Ascot).—We do not know the district, but there has probably been some source of infection near you, and there will always be a risk of the disease reappearing. You might try again with an Italian, or Italian hybrid, stock. Lime the ground thoroughly round where the hives stood, and if possible dig it over. If you buy a stock, get it as early next month as possible, or get a swarm as early as you can, which will not be before end of April or early in May.

G. D. Brocklehurst (Glos.).—Bees do not get much nectar from Bluebells, Anemones, or Primroses. They will collect a little, and even a little is very useful in the early spring.

Suspected Disease.

Mrs. E. F. Elias (Saxmundham).—The bees were too dry for diagnosis.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

MAY-JUNE DELIVERY.—A limited number of four-frame Nuclei, headed by 1918 Italian Queens, price £3 3s. each, carriage paid.—Box 9, Bee Journal Office, 23, Bedford Street, Strand, W.C.2 o.19

FOR SALE, 35 lbs. good Beeswax.—E. TORY, Holbeach Hurn, Lincolnshire. o.30

FOR SALE, Honey Extractor; equal to new; used only one season.—Particulars, SAUNDERS, Bidford-on-Avon. o.31

SALVAGE TIMBER, cut suitable sizes for hive and super making; 53 pieces, 20 in. by 4 in. by ⅞ thick, 44 pieces, 17 in. by 5 in. by ⅞ thick; 143 pieces, 20 in. by 8 in. by ⅞ thick; free on rail Pevensey; 30s.—CAPT. GORDON, Pevensey Bay. o.32

WANTED, Stock of Bees; healthy.—MRS. WHELDON, Hatfield, Herts. o.33

WANTED, to book two early May Swarms. I will send boxes.—HAWKEN, Polkerris, Par Station, Cornwall. o.34

EXCELLENT Light Cambridgeshire Honey, 14-lb. tin, 2s. 3d. per lb.; crate returnable.—SMYTH, Coldharbour, Ashwell, Herts. o.35

WANTED, Stock Bees.—STEPHENS, Barton, Winscombe. o.36

WANTED, early in April, a strong Stock of Italians for cash, or exchange four Taylor's Hives, complete, or two W.B.C. Hives, with Claustral chambers, side entrances for requeening, lifts, brood boxes, supers, etc., well painted, and in new condition.—MR. WESTROP, Bridgnorth o.37

FOR SALE, quantity British Bee Journals, 7s. 6d. lot.—H. BOWEN, Pittville Street, Cheltenham. o.38

A FEW healthy Swarms of good Italian strain may be booked.—Particulars from T. J. BIRD, Furlong Road, Bourne End, Bucks. o.39

STOCKS AND SWARMS.—Several for disposal in April and May.—THE HOMESTEAD FRUIT AND POULTRY FARM, Meopham, Kent. o.40

NUCLEUS on 4 frames, pure Italian Queen, mated 1919, despatched in May, carriage paid, 3 gns.—JOHN WM. PRICE, The Outlook, Barming Heath, Maidstone. o.41

SEVERAL W.B.C. Hives for Sale, in excellent condition, £2 each; also Drawn-out Comb and Appliances. Wanted to purchase, Honey in bulk or sections.—DOLLIS PARK POULTRY FARM, Church End, Finchley. o.42

TO CLEAR, cheap, six W.B.C. Hanging Frame Section Boxes; 100 Section Racks, various patterns; 3 Travelling Crates for 1-lb. bottles. Stamped envelope for particulars.—Box 10, Bee Journal Office, 23, Bedford Street, W.C.2. o.29a

FOR SALE, several Hives, Supers and Appliances; good condition.—Particulars, E. MILNER, West View, Hook, Goole, Yorkshire. o.7

WANTED, Healthy Stocks of Bees and Appliances.—W. SMITH, Hook Farm, Aldingbourne, Chichester. n.13

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur"

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

NO FINER INVESTMENT can be made than in our Virgin Italian Queens; only 5s. each; June onwards.—PEARSON & GALE, Marlborough. o.43

MR. ALFRED CHALLIS, Sawston, Cambs., writes under date March 3:—"I should give up all hope had I not tried Flavine on two stocks last year; in fact, these two are the only ones free from 'I.O.W.' disease now."—S. H. SMITH, 30, Maid's Causeway, Cambridge. o.44

3-FRAME Nuclei, Italian, and hybrid Queens. No "I.O.W." disease here. List stamp.—CRAWFORD, Apiaries, Castlederg, Co. Tyrone. o.26

DISEASED BEES WANTED.

WE have been asked to try and procure, for experimental purposes, a couple of stocks of bees suffering from "I.O.W." disease, which have not been treated with any remedies. A fair price will be paid.—Communications to MANAGER, B.B.J. Office.

RE-STOCKING.

Rear Queens, and begin now. Complete Outfit, 2 frames, 18 waxed cells, 12 cages, jelly spoon, transferring needle, instructions, 15s.; postage, 6d.

MEADOWS, SYSTON.

KAT-A-LOG, all latest, up-to-date Appliances, post free, Meadows, Syston.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

THE
British Bee-Keepers' Association.
Insure *now* against loss by damage done through bee stings. All particulars from
W. HERROD-HEMPSALL, 23, Bedford Street. Strand. London, W.C.2.

IN WAR-TIME

The Nation's Food is of prime importance. The products of the Apiary, of Poultry and Farm Stock, of the Fruit and Vegetable Garden can be augmented. Buy your stock, sell the produce, through
THE BAZAAR, EXCHANGE & MART
Newspaper.
Get a Copy—Thursday and Saturday, 3d. The "Bazaar" publishes also practical handbooks by experts. Send for full catalogue, ———post free from———
WINDSOR HOUSE, Breams Buildings, LONDON, E.C.2

The certain cure for and Preventative of "Isle of Wight" disease. **'BACTEROL'** Proved by Bee-keepers generally after testing on the most hopeless stocks.
Manufactured by "Bacterol" Limited, London, N.
MENLEY & JAMES, LTD., MENLEY HOUSE, FARRINGDON ROAD LONDON, E.C.

KENBEE TRADE MARK

BEE SUPPLIES AND PRODUCTS
CO-OPERATIVE ASSOCIATION, LTD.

Registered Office: 36, High Street, Dartford.

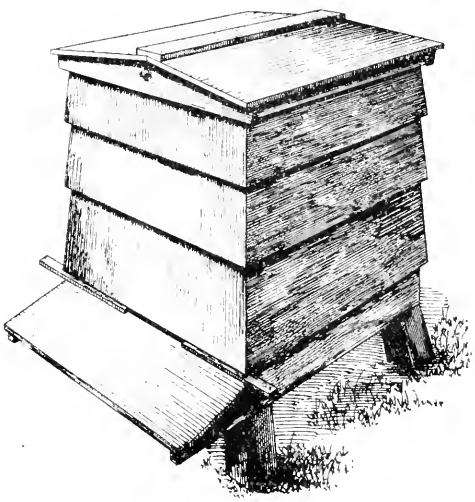
KENT STANDARD HIVES.

(Designed by the Kent Bee-Keepers' Association)

The characteristics of the Kent Standard Hives are:—

1. The elimination of the Plinth.
2. Square construction.
3. Interchangeability of parts.
4. First-class Finish.

The advantages of the above are obvious.



MODEL A. No. 1.

Consisting of floor, one 9-inch and two 7-inch casings, roof, brood box (10 frame) and two shallow frame supers with frames and W.B.C. ends complete. Painted three coats best oil paint, as illustrated.

Price	**£2 15 0**
Price, with Queen excluder, and all frames wired and fitted with foundation ready for use	**£4 0 0**

Carriage extra.

SPECIAL TERMS FOR QUANTITIES, AND TO THE TRADE.

ALL COMMUNICATIONS TO THE

Bee Supplies and Products Co-operative Association, Ltd.,
36, HIGH STREET, DARTFORD, KENT.

Petition for Legislation.

We gathered from what was said at the annual meeting of the B.B.K.A. that there is still some misunderstanding as to the petition for legislation, a number of bee-keepers still being under the impression that it is in support of a "Bill." We said in reply to a correspondent some weeks ago that there is no Bill before Parliament at present. As the secretary explained to the meeting very clearly and emphatically, the petition is to simply impress on the Government the fact that the great majority of bee-keepers desire legislation of some kind to protect their industry against the carelessness of those who take no precaution against their derelict hives and other appliances being the means of spreading disease all around the neighbourhood, and, if possible, to prevent the sale of stocks that are suffering from any disease.

Having convinced the powers that be that legislation is both needed and desired, further steps, either by means of a short Bill or other procedure, can then be taken with a good prospect of success.

British Bee-Keepers' Association.

The forty-fifth annual meeting of the Association was held at the Central Hall, Westminster, London, S.W., on Thursday, March 20, 1919.

Mr. A. G. Pugh was voted to the chair in the temporary absence of the vice-chairman at another meeting. There was a very large attendance of members, the room provided being full to overflowing. The minutes of the annual meeting, held on March 21, 1918, were read and confirmed.

A number of letters expressing regret at inability to attend were received, and amongst them one from the chairman, Mr. T. W. Cowan, who unfortunately was ill.

A vote of sympathy with Mr. Cowan was immediately proposed and carried unanimously, together with the wish that he would soon regain his normal health.

In presenting the report, the chairman stated that as he had been called upon unexpectedly to fill the chair, his remarks would be very brief.

The report was more successful than could have been anticipated considering the troublous times through which we had been passing. Last year the outlook was dull, but we had now come into the sunshine of peace, and it was hoped that we should have a real good time in 1919.

The finance was sound, strict economy had been practised, and many new members had come in, which tended to the success of the Association, and would enable it to enlarge its scope of usefulness.

The library had been taken advantage of, and, as it contained books unobtainable elsewhere, it should be made still further use of by the members.

The apiary was in a thriving condition. He had paid a visit to it, and the bees were as comfortable as possible, and had done their duty in providing material for the extension of a knowledge of bee-keeping. He advised those members who had not visited the spot to do so, as he could not have imagined that such a rural spot of great charm and beauty than that in which the apiary was situated existed so near London.

The members would be pleased to hear that once again the Royal Show was to be held this year at Cardiff, and that the Association had agreed to accept the management of the bee department again. It was a good means of advertising the work of the Association, and it was hoped that members would support it by making as many entries as possible.

The examinations were a good feature. The Association was a qualifying society, and granted certificates by examination which, when obtained, gave the winner a hall-mark for possessing a certain amount of knowledge, according to the grade of the certificate.

The number of persons insuring was a surprise, as it showed there were more bees in the country than one might suppose.

Mr. Bevan proposed, and Mr. Peirce seconded, that the report be passed.

A question was raised with regard to the standardisation of hives. In reply, it was stated that the Association had the matter in hand, but owing to the difficulties of obtaining wood, etc., for making appliances, the time was not yet ripe for it to be proceeded with.

The matter of legislation was also brought up, and an explanation of what the Council had done was given. The suggestion was made that the sooner legislation could be obtained the better it would be for bee-keeping.

It was stated that some county associations were doing little, if anything, to

obtain signatures to the petition sent out by the Association.

The report was then adopted, and Mr. Reid having arrived, he now took the chair.

It was proposed and carried that the best thanks of the Association be given to the London County Council for their kindness in providing the site for the apiary.

Mr. Bevan proposed, Mr. Peirce seconded, and it was carried, that the balance sheet be accepted.

Mr. Hayes proposed a hearty vote of thanks to the retiring Council and officers. They had brought the Association safely through very troublous times, and deserved the best thanks of the members. Mr. Illingworth, in seconding, said that the work was the more creditable as it was done for the love of bee-keeping and not for pay. The resolution was carried unanimously, and Mr. Reid expressed the gratification of his colleagues and himself that their labours were appreciated.

Mr. Eales proposed that the vice-presidents, hon. members, and corresponding members, hon. treasurer, auditor, and solicitor be elected *en bloc*, as in 1918. Mr. Lamb seconded, and it was carried unanimously.

The Council for 1919 were elected *en bloc* as last year.

This concluded the business of the meeting.

MONTHLY MEETING OF COUNCIL.

The monthly meeting was held immediately after the annual meeting on Thursday, March 20, 1919.

Mr. W. F. Reid presided, and there were also present: Miss M. D. Sillar, Col. H. F. Jolly, Messrs. A. G. Pugh, C. L. M. Eales, G. J. Flashman, W. H. Simms, J. B. Lamb, T. Bevan, G. R. Alder, G. W. Judge, G. Bryden, J. Smallwood, F. W. Watts, F. W. Harper, and J. Herrod-Hempsall. Association representatives: Messrs. R. W. Babbage (Middlesex), J. Rae (Essex), G. Hayes (Notts), G. Thomas (Gloucester), and the Secretary, W. Herrod-Hempsall.

Mr. Pugh proposed the election of Mr. Cowan as chairman, eulogising the splendid work which he had done, and although not able to attend many meetings, is still doing for the Association and bee-keeping generally. Mr. Eales also, in seconding the proposition, paid tribute to the work of Mr. Cowan. The resolution was carried by acclamation.

Mr. Eales proposed Mr. Reid as vice-chairman, and gave details of the large amount of time and trouble expended by that gentleman for the welfare of the Association. Mr. Lamb, in seconding the resolution, also spoke of the excellent services rendered by the vice-chairman. The resolution was carried with applause.

The committees were re-elected as last year, with the exception of "The Board of Examiners for paper work," to which the name of Mr. J. B. Lamb was added. The Exhibition Committee were given power to co-opt other members if necessary.

The minutes of council meeting held on February 20, 1919, were read and confirmed.

A financial statement was made by Mr. Smallwood, who said that payments into the bank for February amounted to £29 19s. 6d. The bank balance on March 1 was £155 19s. Payments amounting to £60 5s. were passed.

The following new members were elected:—Mrs. R. Fuller, Major R. Fuller, Rev. B. Wright, Capt. E. A. Wheeler, Sergt.-Major W. J. Jordan, Messrs. F. J. Bell, W. Stanley, J. Draper, H. E. Ellis, A. R. Hughes, C. Woodcock, and G. Thomas.

The Pembrokeshire Association applied for affiliation and were accepted.

The following Associations' nominated representatives on the council and all were accepted:—Aberdeenshire (J. Herrod-Hempsall), Doncaster (General Bewicke-Copley, C.B.), Bucks (P. Ryan), Derby (G. T. Pallett), Worcester (A. R. Moreton), Gloucester (G. Thomas), Herts (P. E. Wagstaff), Notts (G. Hayes), Carmarthen (H. Samways), Monmouthshire (R. Hancock).

Council meetings for 1919 were fixed for the third Thursday in each month except August, when there will be no meeting, and June, which will be held at the Royal Show, Cardiff, on Thursday, June 26.

Next meeting of council April 17, 1919, at 23, Bedford Street, Strand, London, W.C.2.

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 25, May 2, 9, 16, 23, 30, at 6.30 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to

W. Herrod-Hempsall,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

Will our readers please note that the secretary will be abroad for a short time after this week, and will be unable to deal with personal correspondence.

A Dorset Yarn.

Ample stores in early spring time is advocated by all text-books and modern teachers of bee-craft. I am convinced the teaching is sound, for on looking round the hives last Sunday, March 16 (with one of the teaching staff of L.C.C., who was down at the farm for a holiday, after sickness), I saw that all cells that could be seen from the top were full, or partly full of food. I should not like to assert that they are gathering nectar in quantity, but it certainly cannot be all syrup that is stored, as I have not given them such quantities. When the sugar came, we made some syrup and placed it on the top of an empty hive, with a piece of three-ply tea chest wood with holes made for the bees to sip the syrup through: this floated on the top of feeder, and as the syrup went down the thin raft sank with it; but so much stored in the hives in mid-March, with such unfavourable weather, must help our lot on immensely. It is astonishing what a lot they will sip up in a few hours of favourable weather. There must be a covering to keep off rain, or the syrup will soon get spoiled with so much added water. Some may think that this system of feeding in spring will cause robbing. We do not find it so. The numbers that hustle each other to get at the syrup seem to make them more eager to hurry back for more, as we farmers find a kip of young pigs will tumble over each other for food when a small lot is given them each time; when that is gone another small lot is hurriedly scrambled after, where if a huge lot of food was given at once, they would not eat so much. I find with our bees, even when the syrup is used up, they go to see if more has been put there for them. One would expect that exercise was good for them as well as man, so they hurry back again when they have had a fill of syrup.

I like to see them strong on the wing at all times, and this system of feeding in early spring seems to give them exercise and stores of food, where if they had to fly far for food—and it is scarce to gather—they would be using up their energy for little good.

Our Italian stocks are the strongest, yet there are not so many of them round the feeder as there are blacks and hybrids. They all seem to be covering the full length of bars. I assume they must be covering brood, so as to give the necessary warmth to develop the young larvæ into perfect insects.

If a hive is robbed, it is mostly Italians that carry on the plundering; but at the feeder there does not seem so many of them after the syrup. I still have a lot to learn of our little friends, and, I suppose, shall keep on gaining knowledge as each season comes round.

The female flowers of willows are now open. They are quite sticky with nectar if drawn through the fingers. Our London teacher took some back for Nature study with the East End boys. Poor boys! crowded together in big centres, when there is so much space in our beloved land where to-day the air is full of the songs of birds, and everything seems beautiful and full of interest. What will the London boy think of the sallow flowers, where the male flower is on one tree and the female, or seed-bearing ones, are on others. To see the beauties of flowers one must be always with them. The crimson plumes of the female corylus just now are a sight to those who know where to find them, thousands upon thousands of them; but there are still the yellow catkins of the males blowing about with the wind, so that each season's flowers should be fertilised and the race carried on year after year.

There are plenty of flowers, but such unsuitable weather. It commenced raining at 2 p.m. on Tuesday, and to-day (Thursday) it is still raining. One cannot work, so one of my big sons and I decided to attend the annual meeting of B.B.K.A., at the Central Hall, Westminster. We were going up to see the Guards' reception on Saturday; it will give us an extra day in town to do business. As we may not be home to write up this in time, have hurried it over before starting. I am thinking the bee-keeper is wise who feeds liberally this showery time, as the season's success depends on a good early start, and bees cannot gather stores with continual rains.—J. J. Kettle.

Donations for Royal Show.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

	£	s.	d.
Amount previously acknowledged	19	2	0
Mr. H. Jonas	1	1	0
Mr. J. J. Kettle	1	0	0
Capt. N. C. Elstob	0	10	6
Mr. W. J. Wiltshire	0	5	0
Mr. A. H. Breach	0	5	0
Mr. G. A. Moreland	0	2	6
	£22	6	0

Food for Bees.

In recently dealing with the "manufacture" and sustenance of bees I promised an addendum dealing with out-of-the-way or unusual materials. Here are some quotations:—1. "Toasts of bread steeped in strong ale, and put in a bee-hive, is very good and cheap food" (Hartlib). 2. "Take ten figs, seething them in five pints of spring water; others seeth honey and water together" (Hyll). 3. "Beer and sugar is their best winter food" (Cotton). 4. "Turn up your hives (in winter) and sprinkle them with a little warm sugar and sweet wort" (Evelyn). Amateurs, please don't do it in winter! Aristotle mentions figs, or any sweet things. Pliny recommends raisins or figs. Other ancients advise the use of bean flour, ground malt, roasted wardens, apples, sweet wort, and even the flesh of a chicken! Butler recommends the last-named, and so recently as the issue of Dzierzon's "Rational Bee-keeping" it was believed in as a food for bees. Who will try it?

Cotton placed honey as the best food for bees, but sugar and beer he considered "next best." Beer was highly valued among ancient apiarians as a healthy ingredient in the food supplied to bees. Just 100 years ago Huish presented us with the following model recipes. Believing that honey itself was "very injurious," he recommended that it should be mixed with "some good old white wine, in the proportion of six pounds of honey to one of wine"; and, again, "The following is a mixture which I have found very conducive to the health and strength of bees. Take eight pounds of honey, six pounds of water, one bottle of old white wine, and one pound of sugar." This was cooked much as we make our syrup nowadays. As he considers the above too expensive for cottagers, he recommends as appropriate and beneficial for the bees: "Two pints of good old ale and one pound of moist sugar." He believed in the use of salt in the apiary.

That prince of bee-keepers of the olden time, Bonner, looked on honey as the only true food for bees; but, in an emergency, and that only in spring, he would have used substitutes, believing that they would supply the deficiency "tolerably well." "In such a case, let 1 lb. of brown sugar be mixed with half a gill (or half a quartern) of small beer, and let a tablespoonful at a time be placed before the entry of the hive. Repeat daily, and the hive will be preserved from famine." In September supply with nothing but honey.

Cotton maintains, "There is nothing so good as honey," yet he also used beer and sugar, "which is next best." One pound of sugar to a *quart* of beer is his recipe. How does that agree with Huish's *half a gill*? I might go on quoting recipes and naming out-of-the-way feeding materials, but let the foregoing suffice.

From the earliest times it has been recognised that bees require water. One old bee-writer classifies "Water Carriers" as one of the divisions of worker bees, and he pictures them as huge barrel-like creatures very heavily inflated and carrying in large tanks of water alone. Before the year one Virgil wrote as if he thought that regular supplies of water were as necessary as honey, wax, bee-bread, or propolis, and he gives elaborate particulars how, by the provision of drinking fountains, they could have a regular supply. There is little doubt but that adult bees require water as a part of their sustenance. They consume a large quantity in spring and early summer when active breeding is going on to dilute the thick winter honey before feeding it to the young bees. Hence, we find that during that period more bees find their way to brooks, streams, ponds, and marshy tracts than at any other period of the year.

Water is required not only for this dilution of the over-thick honey stored in the hives during the long winter, but also as a part of the food of both the young and old bees as a part of their nutrition. All animals require liquid food, why should not bees? The fact that less of it is carried in at other times does not prove anything to the contrary, because later it is already in the hive ready at hand for their immediate use. As is well known nectar as newly gathered, and before it is consigned finally to the store cells contains a very large proportion of water which has to be evaporated before the sweet becomes regular honey.

It will be noted that in spring bees particularly affect saline pools, even when stagnant and, one would think, not very appetising, especially to such a dainty creature as the bee. This has led many to salt the water given in drinking troughs. It seems to agree with them, and when water lies some time in a still way it prevents it from souring and preserves it "fresh." A trickling rill, or a gently dripping supply of ever-changing water is the best and choicest which can be given the bees. I would rather favour *sweetened* water. If not overdone in this form, it could be made a source of stimulation when weather is genuinely warm and settled, as it forms both food and drink for the bees, and, at the same time, pro-

vides them with the solvent and diluent necessary for the feeding of the young larvæ.

In a dry season, when water is not easily available it should be provided in one form or another by the bee-keeper. It pays, because bees foraging at a wide distance, and, sipping up the cold water, get chilled when the temperature suddenly falls, thus causing the loss of precious bee life at a period when one bee is more valuable than twenty at a later date.

"Isle of Wight" Bee Disease.

Certain articles have recently appeared in the press stating that the "Isle of Wight" disease has destroyed the entire stocks of the Bee-Stocking Committee. Owing to the omission of the words "in Nottinghamshire," the statement is misleading, and has been taken as referring to the re-stocking scheme of the Food Production Department of the Board of Agriculture. It will be seen, however, that this is an entire misconception, when it is stated that the bees which are being imported for the purpose have not yet arrived in this country.

Wintering Bees.

I readily acknowledge the constructive spirit of the article on "Wintering bees," in THE BRITISH BEE JOURNAL for March 6, and would welcome seeing more of such criticisms in print, so as to create greater opportunities for helpful discussions. Since some of your readers appear to imagine that such remarks did not already receive my full consideration before I ever ventured to offer any suggestions on questions relating to "Isle of Wight" bee disease, may I first take the opportunity, therefore, to express to Mr. Illingworth, and to other correspondents, my best thanks for their co-operative attitude?

In spite of emphasising on repeated occasions, that I am led to believe (from the examination of available literature, and from the interrogation of various authoritative apiarists, apart from my limited experiments for self study, and apart from private correspondence), that under the title of "'Isle of Wight' Bee Disease," we appear to be dealing with a group of abnormal conditions, all of which are not necessarily serious diseases, or real maladies, and that multiple factors are associated with this trouble, also, in spite of my endeavour to give each one of these likely factors its proper place of recognition, I note with great surprise that, apparently, I am considered to believe that the key to our salvation is *artificial heat*, and nothing else . . . !! I believe that some of Mr. Illingworth's remarks would not have arisen had he *collectively* considered my published views, and had he anticipated the line of my arguments and conclusions. I can promise him, however, further information on his questions in the British bee press, but not necessarily in THE BRITISH BEE JOURNAL, for the simple reason of its space limit, and on account of my desire to conclude as early as possible my current series of notes on "Isle of Wight" disease, in case they will stimulate others to test some of my views early this year if possible, before the actual warm season begins, and whilst there is yet a possibility of the incidence of frosty weather.*

I may assure Mr. Illingworth that I am far from being influenced by the present prevailing conditions; on the contrary, I approach all matters relating to bee culture as a sceptic, and I never formulate any opinion before carefully dissecting all data presented to me, either in the form of literature, experiments, or interviews. He refers to the best packing for bees as bees, and, needless to say, I cordially agree with him. I do not consider, however, that this packing by itself is a complete one in cold countries. A *strong* colony will, no doubt, survive with a light packing in a few instances, but the individual mortality, and the harmful effect on the health of the bees, should frosty weather appear for a long time, are far from being insignificant. He agrees that *candy feeding* in winter is not safe, but apparently thinks that early *syrup feeding* in the autumn is good enough. There again I must differ, as I consider both forms afford no more than compulsory emergency diets, and my main reasons for objecting also to syrup feeding are:—(1) Syrup neither represents, nor approximates, to a satisfactory degree, to the natural food of the bees, so far as its dietetic value in the terms of proteins, carbohydrates, and fats, is concerned: the inactivity of the bees

* Since writing these notes, the rapid improvement in the weather has almost excluded this possibility in an appreciable degree to suit experimental purposes. The "Notes on Isle of Wight Disease" will be concluded in the JOURNAL as soon as space will permit, and as soon as replies to already published criticisms make their appearance. Therefore, whilst not excluding in advance any constructive criticisms, which I shall be pleased to answer, I think that such criticisms would be more helpful if delayed till after the conclusion of these notes.

during winter is no physiological justification for robbing them of two of these *essential* constituents of a perfect diet; (2) syrup is lacking in *vitamines*, the absence of which, on scientific grounds, is quite likely to be partially responsible for reducing the stamina of the bees in winter. He mentions the successes of the past, and attributes them partly to the championship of only young queens, and partly to good luck (by which he presumably means the practical absence of infection from his district at that time), and gives an account of the usual orthodox methods of wintering. I may remark that probably the first and second factors were the leading ones; at the same time I must add that a young queen is not necessarily a good queen, because, although she might be a good prolific mother, yet, on the other hand, her progeny are not likely to be hardy, should she belong to a non-resistant strain, or should she have been reared on non-scientific lines. I can easily understand that the acclimatised British bee can put up, in a comparative sense, with light packing, but will readily succumb to infection owing to her susceptibility, which seems to be traceable, at least in part, to the poor methods of artificial queen-rearing prevalent in this country.

Regarding *bee-housing in winter*, Mr. Illingworth evidently does not appreciate that the *winter apiary*, suggested in my article, combines the advantages of both cellar wintering, and outdoor wintering, *without* their disadvantages. He asks what benefit is he likely to derive from this plan, which, by the way, was not given as a recommendation for beginners, but for leading apiarians, who annually sustain big losses. The main advantages are :—(1) The maintenance of a *regular safe minimum* of temperature; the reasons for this have already been given, but Mr. Illingworth does not attempt to analytically examine them, although he refuses at present to believe in the wisdom of extra packing; but why disbelieve, when his other beliefs should have led him to this also? (2) The supply of *fresh* air (and not of stagnant cellar air) to the bees, with a minimum of exposure to outside harmful atmosphere; (3) the greater facilities for preventing the flight of the bees when undesirable, and for stimulating it when highly desirable; (4) stimulative brood rearing, both in the spring and autumn, since a colony composed mainly of old bees will naturally undergo rapid dwindling in winter, even in the absence of disease; (5) the protection of weak colonies, which, for some reason or other, are not required to be united; (6) should the method be adopted for a *bee hospital*, it would facilitate the winter treatment of the sick bees. Some of these points will be further explained in future contributions.

I am sorry indeed if Mr. Illingworth imagines that, because of being an admirer of American methods of bee culture, I am not a free thinker. The *American bee cellar*, if properly ventilated, and if its temperature be controllable, is a great advantage (in severe frosty weather) over ordinary outdoor wintering. The winter in the northern parts of the United States is certainly far more severe than in England, but although the prevalent idea here is that no harm will arise to the bees from frosty weather, it is unconsciously admitted that no few colonies are either extinguished in prolonged frosty weather, or that after such confinement, they begin to show symptoms of disease in the mild weather following the frost. I have attempted in the past to explain the causes of these misfortunes, and shall further explain them in future notes, which are based on a wide scope of study, embracing earlier periods, even before the formation of the British Bee-keepers' Association.

The pages of the British bee press, apart from the private information which one is able to secure from many sources, are sufficient to show me that many apiarists, whether professional or amateur, are rather exaggerating the present *incidence of microsporidiosis*, and are content (before troubling to examine their bees, or depending on some fallacious generalities) with attributing their losses to its evil influence. This observation does not mean on my part underestimating the incidence of this disease. On the other hand, nothing could be more injurious to the progress of bee culture than the substitution of a modern superstition for old ones.

I cannot readily admit that disease may be present "without any symptom which the practical bee-keeper would notice." The practical bee-keeper rightly suspects his bees of abnormality if they are "listless and lazy," or if they have a "hoarse" voice (which seems to me to indicate what might be termed the *pre-crawling stage*, suggesting the initial disability of the wings resulting in the production of a *coarse flight sound*), and these are early symptoms. Should he be methodical and reasonable, the bee-keeper should *immediately* send samples of his suspected bees for microscopical examination, meanwhile isolating them for careful examination. This would constitute a safe practice for the early detection of disease and the prevention of its spread.

Again, I cannot consider (in the complete absence of suspicious symptoms), a

positive indication of disease the presence of *Nosema Apis* in a sample of bees, for one might be simply dealing here with a case of "*carriers.*" Isolation, observation, and treatment are nevertheless indicated in such a case.

Mr. Fordham, in giving an illustration of how bees resist cold (which should be described as an illustration of how bees benefit by artificial heat) makes wrong deductions and explanations. He first forgets that the average *minimum* temperature at the period to which he refers was about 40 deg. F., that is to say, above the degree of temperature at which the heart of the bee would stop and life would cease to exist; in the second place, he does not mention that such bees were in an *unconscious* condition until artificially warmed. Is it difficult to profit by this observation in the right way of safeguarding, in the severe cold of winter, against excessive hibernation, which is the precursore to *†avoidable starvation?* He says, "we coddle and fuss bees too much, in my opinion, and in this neighbourhood many agree with me." He does not, however, qualify his statement, nor does he analytically examine the views which he is endeavouring to criticise.

By his reference to my humble personality, Mr. Illingworth indirectly opens a side issue which touches on an important educational and moral principle. For this reason alone I am reluctantly compelled to examine it independently on another occasion.

(†) Further notes on the subject of *avoidable starvation* have been contributed to the BEE-KEEPERS' RECORD.

Experiments with Apparently Dead and Dying Bees.

These experiments were carried out with, first, healthy stocks, and also those suffering with "I. of W." disease. I will only at present deal with the bees from healthy stocks, the same stocks being healthy to-day.

I was determined that, so far as possible, I would take nothing for granted, any statements of the effects of heat on chilled bees I would thoroughly test. Having eight hives with deep stands in which 6 in. frames fit, I took those frames of comb out in packing up for the winter. This gave me a space of 6 in. below the occupied brood combs, in which I could place any source of heat. I had a door made specially in the back of the hive, so I could get directly into this space if I wanted to put any heating apparatus in. I have not done so, as my other experiments were against it. It will be seen that the door is just the thing to get out bees which appear chilled, and those which lie feebly kicking. I can go round the eight hives, and in five minutes have every bee swept out from the floor. My custom for three months has been to go frequently, and remove the bees for experiments. Early in November two hives had an unusual lot of such bees, one Blacks, the other Italian hybrids, both being strong stocks on eleven combs. I may say my brood boxes are square, measured across and along the top of frames, and will take eleven frames easily. Those bees I took and kept separate, placing them in cardboard boxes near a fire overnight. Probably 100 in each lot revived, and were returned direct into the hive next morning. Several times, where the number from each hive was small, I put the whole lot into one box, and, after reviving those that were not dead, I let them free to return to their own hives if they could. So far everything seemed plain sailing. I was doing good business —in fact, like getting money for nothing —but the constant doubting to which I am subject made me pause. I had thought of altering up to 20 hives in order to get a larger number of bees each day, and putting those revived into a small hive with three shallow frames of comb, to follow up the life-history of these bees. However, I was only able just now to put them in a cardboard box and keep them continually near a fire; but the results were such that I doubt if any good would result from putting them on combs. Early in January this year I went to the hives after an interval of about three weeks, and removed the chilled bees, which amounted to over a pint, and placed them near the fire. The revived ones I allowed to run into another clean box, which had in it a supply of candy syrup, and also sugar mixed with it, to prevent the bees sticking themselves up. After five hours near the fire, I put them in the warm part of the kitchen overnight. Very early in the morning I looked at them; out of a previous 150 lively bees quite 100 were again chilled. Some came round again with increase of heat, but of the total number quite half were dead. By previously separating the living from the dead, I saw what I had not been able to judge—the number that first revived and again drooped. That day I added more bees from the hive, and also the following day, removing the dead ones quickly and keeping the box continually in a warm place. Once I took it from the fire and placed it on the table only 5 ft. away. After about 30 minutes all bees were at the bottom of the box, feebly kicking, some getting up when returned to the fire. I kept these bees, and gave them every care, with a good supply of thin syrup, and yet could not keep them alive above three days—in fact, 48 hours seems

to be the time such bees can be kept alive. I had live bees in the box above that time, but I was continually adding to them, and if I was unable to keep them alive thus it seems likely that those which were returned to their hives were likely to die off the same. This makes me doubtful if heating is really of any use. No doubt the bees would consume more food, but heating would not alter what had to be. It may prevent death for a few hours, but cannot alter the natural course of Nature, and a healthy bee can stand a lot of cold, providing it is not also damp; but damp is more fatal than cold, and to use heating for the purpose of overcoming damp is a clumsy way, for it would also prevent the bees from settling down, and cause them to consume an extra quantity of stores, perhaps eat themselves to a standstill.

The above experiments are not the only ones I have tried; they are only a few out of a number. The results are the same, and where bees have issued from a hive probably knowing they are doomed it is best to let them perish as they wish, for although, after being warmed up, they may decide to rejoin the others in the hive, yet their time is about up, and in a few hours they are again chilled.—F. B. CHARLTON.

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

325. How should you proceed to find the queen in a hive and to cage her?

326. How may the age of an egg be ascertained?

327. When is the best time to put a super clearer in use, and how soon after may the super be removed?

328. What temperature is necessary for the rearing of larvæ?

329. Comment on the use of strips of foundation in unwired frames.

330. Compare wood with metal as material for hive roofs.

331. State the principal features of a good honey house.

332. What difficulties may be expected if honey is extracted before it is ripe?

333. How may a hive of bees be removed from one position to another in an apiary (1) in the winter and (2) in the summer?

334. Name several plants the honey from which granulates readily.

335. Describe the method of introducing a queen by the entrance, using smoke, and comment thereon.

336. What organs of sense are possessed by bees, and where exactly are they located? J. L. B.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Co-Operation or Profiteering?

[9884] My inclination to treat your correspondent, Mr. T. Sharpe (9879), with silent contempt is tempered by the fear that by so doing he might have a severe attack of "swelled-head," which might have disastrous effects. Judging by the tone of his letter, he evidently accuses me of perverting the truth, otherwise "telling lies."

Taking his comments in order, he will find frames listed in every appliance dealer's catalogue at 14s. 6d. per dozen, 16s. per dozen carriage paid, so that my estimate of 1s. 3d. each is absolutely correct.

Point No. 2.—I herewith enclose Signor Penna's 1919 list, in which you will see his statement exactly as quoted by me in my letter last week, that "hives which cost 16s. before the war, now cost £7."

Point No. 3.—He fails to find any higher priced queens in American lists than 4 dollars for "best selected breeders"—no doubt because he doesn't know where to find them, but if he will write to the A. I. Root Company, who are the recognised "Premier" breeders in America, for their latest list, he will find their breeding queens listed at 10 to 25 dollars each. He (Mr. Sharpe) finds some queens as low as 75 cents each, but he doesn't say that this is for lots of about fifty at a time, during August and September, for re-queening purposes. The prices I gave for bees by the pound were taken from the list of Mr. Jay Smith, of Vincennes, Indiana, and Mr. Sharpe can verify these at his leisure.

The heading of my letter is not of my choosing, for if Mr. S—— were "sharp" enough, he would have seen that Mr. "Spectator" started the discussion under this heading in issue of February 13.

At any rate, I think Mr. Sharpe owes me an apology for the insinuation that my statements were incorrect, and if he can produce such quality queens as Root's at 3s. each, *with a similar guarantee to*

theirs, at a profit, then he had better start: "There's no time like the present."

I'm afraid Mr. Sharpe is a little too "sharp" for he evidently does not give himself time to read what is written plainly enough, before "rushing into print."

This inability to understand plain print is evidenced also in several other correspondents' letters. That of "Forty years an importer" in last week's JOURNAL is a striking example, for he jumps to the conclusion that "Spectator" is *importing* the nuclei he spoke of as being headed by Penna queens: but I fail to see where "Spectator" says so, or gives that impression.

This is only one case out of many that I have noticed in the JOURNAL recently, and it would seem that it is almost too much trouble for some people to read carefully enough to understand what is written.

With regard to "Spectator's" explanation this week, he still fails to qualify his previous remark, to the effect that a four-frame nucleus is worth no more than 30s. to 35s. The fact that there are unscrupulous dealers around—"Bolshevists," as Captain Gordon called them—is only another reason why beginners should take the JOURNAL and buy from accredited dealers, and, if afraid of being "had," make use of the deposit system. I quite agree that these gentry should be shown up, and it is a matter for regret that the "Libel Law" makes it difficult to disclose their names in a newspaper.

With regard to the Food Production Department, supplying nuclei there are, I believe, certain conditions, and the nuclei are really intended to benefit those bee-keepers who have lost all their stocks. It stands to reason that breeders cannot enter into competition with a Government subsidised undertaking, but, apart from that, I think it can be safely left to all good-class dealers to give quite as good value, if not better, than that offered by such Departments.

In the foregoing remarks, I have purposely omitted any reference to the loss of the honey crop, and, as an example of the amount of loss this really is, I will mention that one of my stocks, which I allowed to carry supers, although it had been robbed of brood several times, gave me over one hundred pounds weight of surplus, and then wintered on its own stores, although I am having to feed it now. As I had during last season as many as fifty-four stocks of varying strength, it will be seen that the loss is considerable.

If Mr. Sharpe doubts this statement, he is at liberty to make enquiries of my young assistant (a little lad living near me, who helped me during the school holidays). This, be it remarked, was the worst season we have had round here for many years, so much so, that I know of at least twenty stocks in the district having died of starvation, and quite double that number of "Isle of Wight" disease, all my own being perfectly healthy so far. I am thankful to say.—F. M. CLARIDGE.

Notes from the West.

[9885] It must be many years since I wrote a line to the "B. B. J.," but it is so much pleasure to me to read the yarns and experiences of others during these not-too-pleasant times in bee-keeping, that I thought possibly my own little tale would interest some other brother or sister bee-keeper.

Bee-keeping had been my successful hobby for many years, and each season I improved on my work of the former year, till in 1914 I got my most successful season—with selling stocks, a bumper crop of honey, and a splendid working strain of British bees. Until then, my bees were placed in three apiaries some distance apart, but pressure of other work demanded that I should reduce my stocks, and concentrate my bee work to one apiary only the following season.

But, alas! an already too familiar story has to be repeated once more. In the autumn of 1914, after removing surplus and starting preparations for 1915, when watching the bees one afternoon, I noticed unmistakable signs of "Isle of Wight" disease in one of my best colonies. This stock had given me over a hundred pounds of honey, some of which—in shallow bars—took a prize at one of the big shows, and on account of their splendid working qualities, their gentleness, and even capping of their stores, I had marked their queen to be the mother of my future stocks. Notwithstanding all these good points, I immediately decided to sacrifice them, and the following evening, after sulphuring the bees, the brood chamber, frames of comb with stores, bees, and quilts, were destroyed in a bonfire.

It was a mystery to me how they had contracted the disease, as I thought I was fairly isolated; but I hoped my drastic action had saved any spreading of the disease into my other stocks. But by the spring I was sorely disappointed to find that other stocks in the same yard showed slight symptoms of the trouble. I treated them with all "remedies" known at the time, but after destroying and uniting, my apiary was reduced to three stocks, which for a short period appeared in good health. But the symptoms again recurred, they dwindled hopelessly, and I

soon decided to put an end to their painful existence—and my own worries about them.

Now some one will say "We have had similar experiences ourselves, but did not think our cases worth relating in these pages" Possibly so, but I am simply relating the "effect" before coming to the "cause"—which really was my object in writing.

Some months after the first appearance of disease in my yard, I found out the probable source of infection. In the summer of 1914 a Cheshire family took over one of the finest residences in this district, bringing with them two hives of bees. It was in the early part of 1915 that I first knew of these imported hives, when the gardener came to see me, asking if I could come and look at their bees. He did not suggest that there was anything wrong with them, and I promised to go the first fine day with a temperature suitable for opening the hives. When this day arrived, and I opened those hives, just fancy my horror to find both lots dead. The stores in the hives were plentiful, the coverings warm and dry, but the bees' distended abdomens and dislocated wings gave the show away. They were victims of *Nosema apis*. All the gardener could tell me about them was that he had noticed bees very busy going in and out of the hives the "back end." He was rather surprised when I informed him of the cause of the bees' death, and that the busy workers he had seen the "back end" were probably my poor bees, carrying the germs into my (up to then) disease-free apiary. The entrances were at once made bee-proof, and the man in charge promised me that the contents of the hives would be burned to save any further infection from that source. But, so far as my own bees were concerned, it was a case of "locking the stable door" too late.

I have taken too much of your valuable space already, but my case is just another instance of our *urgent* need for legislation. If bee-keepers who know their business, and have spared no time nor expense to equip themselves with the best knowledge of the subject, and the most suitable appliances for the work, are to be handicapped by the carelessness of a few thoughtless—though quite possibly well-wishing—neighbours, we have no solid base on which the energetic and intelligent bee-keepers can hope to successfully build the bee-keeping industry in Britain.—T. ALUN JONES, Halkyn.

Wintering Bees.

[9886] With reference to No. 9860 (page 70 of February 27), though agreeing largely with Mr. Manley in his ideas of wintering bees, I do not think that he can ever have slept in a room with three "outside" walls, or he would know that, although heat rises, cold comes in from any direction. I think that bee-keepers ought to be very glad to have such an active supporter as Dr. Abushâdy, with his scientific knowledge. In spite of all the suggestions and theories one reads, there seems to me to be no doubt that "Isle of Wight" disease will only be overcome through scientific research. Where I disagree with Dr. Abushâdy is over his idea of "coddling" the bees. If they never have to withstand any cold I think they will become "soft," and lose what disease-resisting qualities they have. Protection from damp is the essential thing. During the war it was my lot to live in Army huts-ments. Some of these were built on sloping ground, and it was always found that the end near the ground—i.e., with little or no circulation of air underneath, was far warmer than the end built up on brick supports, well above the ground. This must also apply to hives, the floor-boards of which come very little into the discussions on wintering. It is my intention to test this theory by closing up the space between the hive and the ground. I think it will considerably help the bees to keep up an even temperature inside.—J. H. NELSON.

Prices of Appliances.

1913 & 1919.

[9887] The continued rise in prices of hives and appliances is developing a serious situation for bee-keepers, the results of which will not be fully apparent until the end of the honey season this year.

A comparison of a prominent manufacturer's catalogues for 1913 and 1919 reveals the fact that prices have increased enormously, as the following examples show:—

	1913.	1919.
"W.B.C." Hive	£1 2 6 (with excluder)	£2 7 6 (without excluder)
"Weed" Foundation, per lb.	0 2 3	0 3 4
Clearer Boards	0 2 0	0 4 0
Standard Frames, per doz. ...	0 1 3	0 3 0
"W.B.C." Metal Ends, per doz.	0 0 3	0 0 9
Sections (Split and Grooved) per 50	0 1 8	0 4 8
Excluder Zinc (17¼ in. × 16 in.)	0 0 8	0 2 11
"Cowan" Extractor	2 10 0	5 3 0
Honey Jars, per gross 1 lb. ...	0 13 6	2 5 0

It is evident, in the face of these figures, that the British bee-keeper will not be able to afford to dispose of his 1919 honey at less than present prices, whilst he will be confronted with the opposition of overseas honey, produced under conditions which will allow of sale at possibly under half the price of the British commodity.

In these circumstances, I am seriously considering the advisability of devoting my small apiary chiefly to rearing bees for sale, making use of grocers' boxes as nucleus hives, and only keeping a hive or two for honey production for home use.—H. W. ROUND.

T. A. (Durrington).—*Feeding bees in boxes.*—Cut a hole in the top of the box that has not got one. Mark out a circle two inches across, and with a brace and bit bore a hole close to the mark, and inside the circle, large enough to insert the blade of a small saw, then saw round the mark, taking as short strokes as possible. An expanding bit would make a neater job if you have, or can borrow, one. For feeding, use the ordinary bottle feeder placed over the hole exposing three holes, or a pickle bottle filled with syrup, and a piece of linen, or calico, tied over the mouth, and inserted over the hole will answer the purpose.

A. B. (Clacton).—*Uniting bees.*—(1) Natives. (2) You may unite weak colonies as soon as the weather is milder, say from the middle of next month. (3) You may give syrup any time now. Do not give dry sugar. Add ¾ pint of hot water to each pound of sugar, put in a good pinch of salt, and a small teaspoonful of vinegar; let it boil about half a minute; give in a bottle feeder. See reply above to T. A.

"WORRIED" (West Farm).—We cannot say what caused the death of bees without further particulars. It may have been "I.O.W." disease, or they may have lost the queen at the end of last summer and gone into winter quarters with all old bees, the result being that the colony has dwindled until it was not strong enough to survive the cold and damp of the late winter.

Suspected Disease.

W. G. B. (Essex), E. W. C. (Amwell), C. E. G. GORDON (Bampton), MISS E. BARTON (Lincs.), H. W. KIRK (Yorks.), H. E. E. CARTER (Kent), J. GIBBINS (Birmingham), "FINCHLEY" (Middlesex), A. TILLEY (Yeovil), W. LUMLEY (Farsley).—The cause of death was "I.O.W." disease.

"MOURNFUL" (Hazel Grove).—Both died from "I.O.W." disease.

E. CHEKE (Hants).—Probably "I.O.W." disease, but we could not find it in the bees sent.

G. A. MORELAND (S.E.).—Both lots were affected with "I.O.W." disease. There was no queen in No. 2, or a bee without a head. The pollen is of no use, and is probably full of the pollen mite; better burn it.

J. H. OSBORNE (Devon).—Cause of death, "I.O.W." disease. The safest plan is to burn the combs. If you care to disinfectant them, extract the honey and soak them in a solution of disinfectant, "Bacterol," "Izal," or "Yadil" Syringe with a garden syringe to drive the solution into all the cells, and allow them to soak for several hours, syringe again, and then place in an airy shed to dry. We cannot say if the honey is candied without seeing it.

W. L. S. (Peterhead).—Cause of death was "I.O.W." disease. The combs will be diseased. See reply to T. A. above. The hives can be disinfected, and will then be safe to use again.

"A GLAMORGAN BEE-KEEPER" (Glam.).—All died from "I.O.W." disease. Mice do not, as a rule, attack the bees. It is the honey they are after. They not only consume the stores and destroy the combs, but they disturb the bees during the winter.

J. CHESHIRE (Nuneaton).—Bees were hybrids, and suffering from "I.O.W." disease.

MISS A. WRIGHT (Guildford).—So far as we could see there was no disease.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* "**Business**" *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

EGGS.—White Wyandotte, Preece's 305-egg strain; S.C. Rhode Island Reds, Mason's grand dark birds, vigorous farm reared; 8s. 6d 13, carriage paid; reduction quantity.—FLOWER Bee-keeper, Whaddon Farm, Owslebury, Winchester. o.45

STOCKS, Italian Hybrids, 1918 Queens, overstocked; guaranteed strong and healthy; no disease; April delivery, subject unsold.—"Excel," c/o B.B.J. Office, 23, Bedford Street, W.C.2. o.46

WANTED, strong Stocks, also Fertile Queens, Italian; good price for early delivery; no rubbish required.—BAXENDALE, 1, Kennedy Street, Manchester. o.47

25 DOZEN screw caps of excellent Hampshire Honey; none better obtainable; put up in ½ and 1 lb. bottles. What offers, in large or small lots?—S. G. LEIGH, Broughton, Hants. o.48

24 DOZEN clean, well-filled and sealed Clover sections, over 16 oz. each, at 32s. per dozen; also 5 dozen Heather Sections, at 36s. per dozen; packing free; carriage forward.—H. C. GIBSON, Ballygowan, Belfast. o.49

WANTED, Stock of Bees; healthy.—SCOTT, 74, Woodside Park Road, Finchley, N.12. o.50

FOR SALE, six Stocks of strong, healthy Bees, four on standard frames, two in skeps; also six Standard Hives and Section Racks, etc.; the lot £45.—DOE, West Wittering, Chichester. o.51

THREE 20 lbs. English Clover Honey, splendid flavour, screw cap bottles, carriage paid, £6 5s., or divide.—WILLMOTT, Apiarist, Higham Ferrers, Northants. o.55

LIGURIANS (bred from the pick of Penna's stock, rare workers, specially selected and imported).—Spare Nuclei (in season), 3 frames, fertile Italian Queen, £2; spare Queens, fertile, 8s. 6d.; Virgin, 3s. 6d.—Box 11, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. o.53

WANTED, strong Stock Italians, early April. Single-walled Hive for Sale; perfect condition.—D. M. STANCLIFFE, Middleton House, Pickering. o.54

EXCELLENT Light Cambridgeshire Honey, 14-lb. tin, 2s. 3d. per lb.; crate returnable.—SMYTH, Coldharbour, Ashwell, Herts. o.35

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

MAY-JUNE DELIVERY.—A limited number of four-frame Nuclei, headed by 1918 Italian Queens, price £3 3s. each, carriage paid.—Box 9, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2 o.19

WANTED, Healthy Stocks of Bees and Appliances. — W. SMITH, Hook Farm, Aldingbourne, Chichester. n.13

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

HIVES, joiner made, to your own design; accuracy guaranteed; 27 years' experience. —ROBERTS, Ninfield, Battle, Sussex. o.15

STRICTLY BUSINESS.—Six packages Flavine, 6d.; "Intensive Bee-keeping," 6d.; a Japanned Sprayer, 5s.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. o.52

3-FRAME Nuclei, Italian, and hybrid Queens. No "I.O.W." disease here. List stamp.—CRAWFORD, Apiaries, Castlederg, Co. Tyrone. o.26

RE-STOCKING.

Rear Queens, and begin now. Complete Outfit, 2 frames, 10 waxed cells, 12 cages, jelly spoon, transferring needle, instructions, 15s.; postage, 6d.

KAT-A-LOG, all latest, up-to-date Appliances, post free,

MEADOWS, SYSTON, LEICESTER.

HONEY AND BEESWAX PURCHASED.

Run Honey in bulk. Sections per gross.

HONEY FOR SALE.

Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON ROWE, 28a, Moy Road, Cardiff.

ITALIAN QUEENS, AND NUCLEI.

In reply to great numbers of inquiries, will readers please note that I offer the small Nuclei of one and two frames chiefly for re-queening purposes, and do not advise their purchase by novices, or the unskilled.

For prices and particulars see B.B.J. of March 20. Inquiries gladly answered if stamped envelope enclosed.

F. M. CLARIDGE,

COPFORD APIARY, COLCHESTER

LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence. Terms** on application.—W. B. C. Apiary, Old Bedford Road, Luton, Beds.

Bee-Keeping Activity in Suburbia.

A movement is on foot among the bee-keepers of Twickenham and neighbourhood to form a Bee-Keepers' Association. An inaugural meeting has been held and a small committee formed, which has been instructed to submit proposals for a title for the Association; endeavour to obtain the services of an honorary secretary; draft rules for approval; arrange for a lecture; consider and report on a re-stocking scheme; approach local and other authorities and societies with a view to obtaining recognition and support; and to consider any other matters which may arise. It is hoped that all bee-keepers within a considerable radius will be interested in the movement and communicate with the temporary secretary, Mr. C. D. Burnet, Seton, 30, Cole Park Road, Twickenham.

We were particularly struck by the high note in one paragraph of the circular calling the general meeting. It might with advantage be incorporated in the reports of all Associations. If, in addition, it was acted upon, both Associations and bee-keeping generally would be improved and elevated. It was as follows:—

"*A Note of Warning.*—If an Association is to be formed to popularise bee-keeping with the object of increasing the number of bee-keepers in our district, it is of vital importance that those responsible for this movement should thoroughly appreciate the undeniable fact that the matter does not end here.

"The great enemy of bees and bee-keepers to-day is the 'Isle of Wight' disease.

"New members will never be content until they have a hive of bees of their own, and one hive will lead to more.

"It will be your business as an Association to give them the right kind of education, the right kind of advice to help them to obtain the right kind of bees, and, finally, to give them the right kind of supervision and assistance if disaster is not to overtake you. You will owe it as a duty to your members and the community, meaning neighbouring bee-keepers, to see to it that only the best disease-resisting bees are cultivated; and, finally, you have a duty to the bees themselves to see to it that they are properly cared for as regards winter quarters, winter feeding, disinfection, and stimulation.

"You are asked to accept it as a foregone conclusion that as sure as night follows day, if you fall short in the execution of these duties which you will be deemed to have undertaken, you will have done incalculable mischief and will yourselves be amongst the first to suffer."

A Dorset Yarn.

Several of our stocks at the farm are wonderfully strong, covering the combs their entire width. The Italians and hybrids stocks, judging by the look of bees at the entrance, most people would think were weak, as so few are going out for food. I am grateful to the county council and the Government for the supply of sugar for them. We have not had such a bad spring for some years; mostly when our willows are at their best, we have had favourable weather, but it is frost and north winds; the bees cannot get away to them, the sugar is enabling them to keep up the heat necessary for the young brood.

Mr. Butson, of Wimborne, says he has already transferred his bees into clean brood chambers; am afraid to do mine, as the days are so cold. He is a believer in new boxes for his Italians early, not to give the bees the extra labour of cleaning up their citadel. His success with them proves that it is a good plan; he has more leisure than many of us. I see in our lot that we are not free from disease; there is a "kink" in the wings of some of the bees, but we have no crawlers, all seem to fly well even with the wing out of place; it is with the hybrids, have not seen the Italians with one wing the wrong way.

Squire Tomlinson, who brought a friend to see them on Wednesday, noticed them at once; so many strangers aver that disease comes with the foundation, but it cannot be so, as I have seen a whole apiary of skeps where all the bees have gone under. Spraying with Flavine is carried on by Squire Tomlinson and his friend from Bournemouth. He came to Wimborne to hear Mr. W. Herrod-Hempsall lecture on bee-keeping for the County Council. The lecturer held the audience from beginning to end. They

were nearly all bee-keepers, who thought that the sooner we have an East Dorset Bee-keepers' Association the better for the members; a meeting will be called in the near future for that purpose.

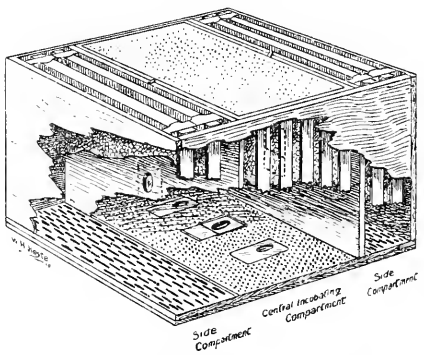
In spite of cold weather, flowers are opening very fast now. The small, wild daffodil shows its bunches of graceful flowers in copses and hedgerows. One meets the children going from school with huge bunches; they know the places where they are at their best; some of the woods here are strewed with them, in some places they are covering the meadows. The buds of gooseberries are showing beyond the green bunch of leaves; Jargonelle pears are unrolling their clusters; when the sun deigns to shine the dandelion and small "wee-tipped daisy" are sweetly pretty to see; crocuses are still very beautiful, the few days that they are full open the bees simply revel in them, and are covered with pollen; the blossoms of plums are showing white, having burst the casing that covers them all winter.

Work on the land is slow, though labour is better; it is so much wet and cold that keeps things back, one cannot plant out crops with a strong north wind. We are still planting onions, and violets, lettuce raised under glass is waiting to be transplanted, but to get it out with frost each morning would be very bad policy. Autumn-planted lettuce and cabbage have had a sprinkling of sulphate of ammonia between the rows; this will accelerate early finishing; as they heart in, they are pulled up, and the violets we plant between them for autumn crop can develop their crowns of flowers. Begin clearing off cabbage when quite small hearts, never wait till they are large, as they rob the ground of plant food very much if left to get big, and the small ones, if early, fetch as good or better prices; it is the same with lettuce; harvest them when quite small heads, or before you finish an acre they will begin to go to seed, and then they are only fit for stock. Cows, pigs and poultry are fond of them, but on no account let them stay on the land when you have another crop growing, as they will impoverish the soil by drawing out the plant food so necessary for the next crop, and you will have to add more to finish the next one. Many market growers plant sprouts on lettuce ground for a winter crop without ploughing the land again. Lettuce, if left for seed, gives a lot of flowers for bees. I cannot tell what they get from them, but they are always on them when they are in flower, so there must be a lot of food in the flowers; they will not go for them if neither pollen or nectar is there.—J. J. KETTLE.

The Incubating or Brood-Hatching Chamber.

It is a simple effort for *any* writer to offer *destructive*, ambiguous criticism, but it is a difficult task to advance helpful *constructive* suggestions or reasoned arguments.

My purpose in contributing to the Bee Press is, in the first place, to stimulate research, secondly to review current literature and to offer *constructive* criticism to the best of my humble ability, and thirdly to report on new or comparatively new methods, views, or experiments, resulting from my examination of apicultural matters—practical as well as theoretical—viewed from both orthodox and non-orthodox angles. I cannot possibly interest myself in the wasteful custom of repeating the story of old literature in one form or the other; and it matters very little to me after that whether my notes are flatly received or otherwise. Personally I expect them to be strongly opposed for a period of time rather than favoured. But I shall not consider my efforts wasted if they would only be productive of *thoughtful* discussions, and if they would be responsible for the gradual introduction of more liberal and scientific principles in bee culture.



THE BROOD-HATCHING CHAMBER.

With the exception of Mr. Hamshar's unqualified reference to "overlapping," I find his remarks, generally speaking, of the constructive type, and I willingly answer them, although it is possible that most of these remarks would not have been advanced had Mr. Hamshar read my additional notes in the JOURNAL on the

features and functions of the *Incubating or Brood-Hatching Chamber*.

Although a simple appliance to manage in the hands of most modern apiarists, the *B.H.C.* is no more recommended to crude "beginners" than is an appliance for scientific queen-rearing, for instance. Consequently, it cannot prove a trap to the unwary, especially as no article which has not been well tried and tested before for years by the bee-keeping world has entered its composition. The price at which it is offered is very moderate, and is partly intended to serve the cause of scientific research; but it is *on its own merits alone*—which merits have been readily recognised by no few practical bee-keepers to whom I have submitted it for criticism—that the appliance is offered for universal adoption with the *Incubating System*, which it introduces for the purpose of rapidly augmenting the population of the hive *at the right time*, whether for securing a good honey crop, or merely as a preliminary procedure for division with view to increase. A strong force of bees is an advantage; nay, a necessity in both cases.

The season for using the *B.H.C.* is the *hot* season, when the hive should contain a respectable population, permitting of the lifting of five frames, but it is obvious that a smaller number of frames could be started with: further, the central *Incubating Compartment* of the chamber could be made to take a smaller number of frames, if this limitation be preferred.

It is erroneous to assume that two-fifths of the brood in what we generally term "*a frame of capped brood*" would be unsealed. Whatever the proportion may be, it is not necessary to shake off all the nursing bees on such combs before placing them in the central *Incubating Compartment*, as they will find their way downwards through the escapes; and should even *all* the bees on the combs be shaken off beforehand, the rapidly-hatching young bees will lose no time in nursing the unsealed brood, which, moreover, need not necessarily be lacking food. Considering the protective moist heat ascending from the brood chamber proper, the unsealed brood should not in the least suffer from being left uncapped. The percentage of sacrificed uncapped brood will be insignificant if the appliance be correctly used only in hot weather, and should proper attention be given to adequate packing.

Regarding the *discouragement or prevention of swarming*, it is clear that the only effective remedy (when the bees appear to show signs of its approach, and when the apiarist desires the continuation of their collective foraging activities during the honey flow), is to rob them for a time of their queen and to look for the building of queen cells. This may psychologically, so to speak, affect their zealousness, but the greatest objection to such a procedure is that it renders the queen foreign to the colony, necessitating afterwards the ceremony of introduction, should her return be decided upon. In any case, such a queen will require, if accommodated independently, a nucleus for her protection, necessitating a superfluous labour to the apiarist; and the original colony is bound to dwindle, unless enforced by capped brood. All this trouble is saved to the apiarist by the mere temporary accommodation of the queen in the *central* compartment of the *B.H.C.* of her own hive. Her activities to her colony are then *not* lost, and she will never lack the odour of the hive, thus allowing her return to her original quarters at any time, without any ceremony whatsoever. Needless to say, the building of queen cells in the brood chamber proper should be carefully looked for, and such queen cells duly removed. Further guiding notes on this suggested method of procedure for discouraging or preventing swarming are surely not required, and the method itself in no way offers any contradiction to the idea of intensive management.

The partial illustration of the *B.H.C.*, which has already been published, clearly shows nothing of a hindering nature other than a queen excluder at the bases of the side compartments; and, as for the escapes, they need not be fitted to the base of the central compartment, as they will serve the same function if fitted to its side walls. By having the bee escapes *loosely* fitted, they could be easily removed at any time for cleansing, and their places taken by spare clean ones. This arrangement will also save having a special hole at the base of the central compartment, for use for direct intercommunication with the brood chamber when desired, as the removal of one of the escapes will serve this object. Moreover, were it not that the central compartment of the *B.H.C.* is intended to serve other than the purpose of incubation, these bee escapes need not necessarily be installed. This and other designs received my careful consideration before preferring the final suggested design illustrated in the *Journal*.

Unless Mr. Hamshar is referring to a colony in a *rich* floral district but *not* headed by a prolific young queen, and lacking one or more lifts at the proper time, I fail to see how the side combs in the brood chamber could possibly become honey clogged or of no use to the queen in the *average* ten-frame hive at the height

of the season. Moreover, is the *average* bee-keeping district in Great Britain so rich in flora, or is the *average* apiarist, at the end of the season, by previously adopting ordinary methods of management, in the happy position to find that he is fortunate enough to have already secured sufficient *capped* standard combs of good quality stores for the winter use of his bees? It would be superfluous on my part not to take for granted that the advanced student of bee culture using this appliance will not consider for himself "the most important factor of the time of season and forage procurable," and I am therefore surprised at Mr. Hamshar's remark.

I trust that the foregoing comments will sufficiently show that this appliance is a real aid rather than a hindrance at the "crucial time." It *simultaneously* serves more than one function, not least in significance amongst which is the exceedingly safe method of *direct queen introduction* advised. Further, it is economical in management and cost; it utilises the wasted warmth of the hive for a very important *rôle;* and being of detachable parts and of an intercommunicating nature, it could be adopted to multiple purposes, and its possessor can never be the loser. From the analytical examination of the original data relating to the *incubating method*, if employed in conjunction with a capacious brood chamber and with ordinary supering, and from comparison with the so-called *sky-scraping method* (an exaggeration of an old practice under a new American title) the advantages of the former method will become self-evident, in so far as the rapid increase of the population at a minimum of labour and cost is concerned. This enforcement of the population, as already stated, is equally essential, whether we are aiming at a maximum of bees or honey, but naturally it has to be regulated according to the time of the season and to the food available. To expand this hint would be to emphasise the self-evident.

The "Isle of Wight" Disease of the Honey Bee.

For two years I have been investigating, in Leicestershire, cases of the trouble to which the name "Isle of Wight" disease is applied, and have not found any trace of the presence of the protozoan parasite *Nosema Apis* in a single instance. I, therefore, agree with Messrs. Anderson and Rennie, that there is no casual relation between the present widespread malady and *Nosema Apis*. (Proceedings of the Royal Physical Society of Edinburgh, vol. xx., 1915-16, part 1.)

It is highly improbable that the able biologists who investigated the matter some years ago at the instance of the Board of Agriculture (Supplement to the Journal of the Board of Agriculture, No. 8, vol. xix., May, 1912, and other publications), were wrong in regarding *Nosema apis* as a disease-producing organism, and I think the matter requires re-stating. The position appears to me to be, that if we are to call "Isle of Wight" disease only that malady caused by *Nosema apis*, then we now have to combat an equally fatal disease, whose symptoms are more or less similar, which is not due to *Nosema apis*.

In the search for a condition common to all cases which should furnish a clue to the cause, I have come across one which has not, so far as I can discover, been recorded or discussed. Many observers have described the somewhat swollen state of the bee's abdomen, the visible expression of a distended condition of the rectum, which is, in my experience, an invariable symptom. They have also described the contents of the rectum as consisting of partly digested pollen-grains, etc., but apparently have not attached much importance thereto. It gradually dawned upon me, however, after examining numerous slides of the rectal contents of diseased bees under the microscope, that something else was invariably present—namely, lumps of a yellowish substance which, by experiment, I inferred might be wax. Subsequent analysis by an expert chemist has confirmed my opinion, and there is little doubt that the substance is wax. It is frequently found in large quantities, as indicated by the figure reproduced herein.

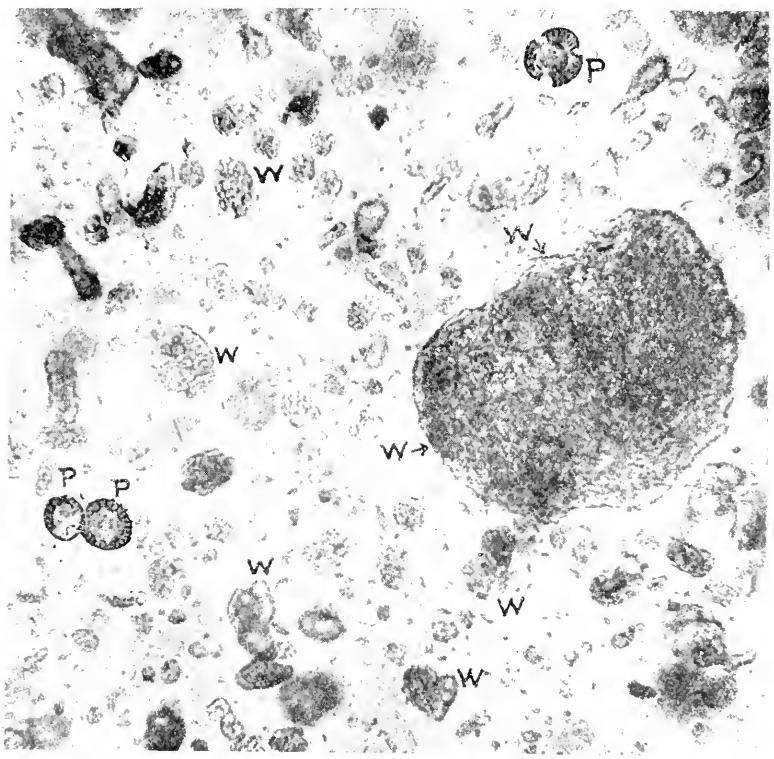
What is wax doing in the rectum? I have not found it in the rectal contents of healthy bees, and I suggest that its presence is due to some disorganisation of the wax-secreting function. We know that ordinarily it should be excreted through the apertures of the wax-glands on to the external surface of the ventral segments.

Some time ago, Mr. F. W. Roberts, of Blaby, to whom I am indebted for constant help and valuable advice, expressed the opinion, based on experience, that it is beneficial to give the bees plenty of opportunity to exercise their natural function of wax-secreting, and I have since seen similar suggestions. The presence of wax in this apparently improper position gives some support to this opinion, for it is conceivable that the suspension of the wax-secreting function by modern methods of supplying drawn-out

comb to save time, food, and energy, may be, in the long run, detrimental.

Are there any observed conditions which this theory would explain? There seem to me to be several. It would vindicate those who claim that skeps are healthier than bar-frame hives, since the comb is formed *de novo*; it would account for the queen being usually among the last survivors, since she does not secrete wax, and could not suffer in this way; and it would explain why such inveterate swarmers as Dutch bees are comparatively free from this observation until further experience and experiment had confirmed or shattered its value, but we seem to have reached such an *impasse* that any new line of thought and investigation is a relief, therefore, I venture to ask for its serious consideration.

I do not find the wax in the chyle stomach of diseased bees, but only in the small intestine and rectum. It is possible, therefore, that the substance is discharged by the Malpighian tubules, instead of taking its normal course.



Photomicrograph of portion of contents of rectum of honey bee suffering from so-called "Isle of Wight" disease.
P=Pollen grains which serve to indicate the scale. W=Particles of wax, a very large one lying to the right. Almost all the small particles are wax; not merely those marked W.

the disease, since they are constantly exercising the wax-secreting function. The fact that swarms sometimes show it is difficult to explain on this hypothesis, but the trouble may arise from the sudden demand made upon organs impaired through generations of comparative disuse. A more serious difficulty is that I cannot at present make the theory fit the apparently infectious nature of the disease, nor its sudden onset in a number of hives simultaneously.

It was my intention to say nothing of

Whether the wax in the rectum exercises a poisonous, or any other effect, I am unable to say, but it at least suggests a derangement which is worth investigation. Its presence may not, after all, be due to the suppression of the wax-secreting function. It may indicate some infectious disease of the wax-forming or other glands, or of the nervous system. In any case, I should welcome any facts and observations which would help me in my efforts to carry the matter further.—E. E. Lowe.

"Isle of Wight" Disease.

A Suggestion.

In my letter, No. 9817, which appeared in the BRITISH BEE JOURNAL of December 19, 1918, I suggested that "Isle of Wight" disease was accelerated senile decay of the workers brought about by overworking the colony. I have given this theory further consideration, and, whilst definite and absolute confirmation will be extremely difficult if not impossible to obtain by experiment, I am convinced that if bee-keepers modified the management of their apiaries, "Isle of Wight" disease would soon disappear, or at least cease to be the scourge it has been during the last decade.

Let us consider some of the peculiar facts presented by this disease in the light of my suggestion. I shall confine myself to such of them as are generally accepted by bee-keepers who have had experience of "Isle of Wight" disease. They are:—

1. Disease generally confined to colonies in bar frame hives.

2. Disease unknown in America and Italy.

3. Ligurian bees more resistant than natives.

4. Annual requeening keeps the disease in check.

5. Incidence much higher among colonies which have given a surplus than among bees which did not rise into supers.

1. Skeps are not immune, but it is generally admitted that they more often escape. The skep is very small compared with a bar-frame hive. The disposition of its combs is fixed, with the result that the brood nest contains a considerable quantity of honey at all seasons, even when the owner has induced the bees to furnish him with a rack of sections. The owner cannot manipulate and force the bees to upset the natural balance of brood and stores, nor make the bees multiply out of all proportion to the amount of stores they possess by providing empty cells for the queen in conjunction with an artificial nectar flow in the form of stimulative feeding. This treatment of colonies in bar-frame hives leads to a critical state of affairs in the domestic economy of the bee. The honey flow, if delayed, will find the colony with its winter stores exhausted, upon which it was making slow but continually increasing inroads to supplement what the bee-keeper was feeding to it with a hive full of brood and with an inadequate food supply wherewith to feed the latter. On the other hand, the honey flow opens in all its glory, and the bees are kept hard, very hard at work filling a never-ending series of empty cells with honey, of which they are deprived when the opportunity of replacing what their owner took from them is gone so far as the bees are concerned.

The effect on the bees in both these cases is the same. They get into a panic, and make strenuous efforts to rectify matters. In the first case every available set of wings is put to work. Old foragers redouble their efforts; young bees, that ought to be still on domestic duties, are pressed into service, and start work in the fields long before they are fit. In the second case practically all members of the colony, when they realise, as every experienced apiarian will admit they soon must, that they are almost destitute, for the bee-keeper took good care to have a brood chamber full of brood in the spring and a queen who would keep it so, will set to work in a fever of panic on a waning nectar flow in their anxiety to prevent the starvation they know will be their fate if they fail to do the impossible. In due course the owner of these poor, hapless bees provides the regulation winter stores, but meanwhile the mischief has been done.

These two cases, I submit, provide the conditions for contracting "Isle of Wight" disease, at the opening, during, or at the close of the active season.

2. Why should "Isle of Wight" disease be confined to Great Britain? I suggest that the reasons are:—

a. The cheapness of sugar, or, if you will, the dearness of honey.

b. The much smaller hives in use here.

In Italy "Isle of Wight" disease does not exist, and so far as my knowledge goes, America is also free of it. In the former country the price of sugar is prohibitive. There can, therefore, be no question of robbing the bees of everything they have gathered. Neither can there be any extensive stimulative feeding except that which the apiarist may carry out with honey of the previous year, fed back as syrup. Colonies, therefore, build up naturally, as does the colony in the skep, for stimulative feeding as we practise it is not carried out except, perhaps, by a few amateur enthusiasts.

In America, apiculture is carried out on such a large scale that stimulative feeding would entail an enormous amount of work, especially where a plurality of out apiaries of two or three hundred colonies each are involved, just at a time when the thousands of supers and section racks have to be got ready. Then, again, sugar and honey cost about the same to the American bee-keeper by the time it is sealed in the brood chamber. He, therefore, allows the bees to keep a portion of their harvest, making up with syrup only where required, and relies on bringing his

colonies through strong in the spring, with plenty of stores to ensure rapid building up without costly stimulative feeding.

b. Both the American and Italian standard hives are almost exactly double the size of our ten-frame hives, and, whilst it is possible to get a Ligurian queen to fill the former with brood, it is not done naturally—it must be secured by manipulation—it is not possible to get the most prolific Italian queen to keep a Dadant hive filled. The honey flow has barely passed its maximum when empty cells begin to appear in the flanking combs, or back combs if they are disposed parallel to the entrance, which cells are immediately filled with honey. But it is seldom that more than 10 of the 12 frames are filled with brood, even when breeding is at its maximum. This, then, ensures that there is at all times a considerable quantity of stores in the brood nest.

It is not difficult now to see that the conditions, which I submit bring about "Isle of Wight" disease, are absent in American and Italian practice, which conforms more nearly to Nature than does our intensive culture.

3. An Italian queen is more prolific than her black sister, and anything which causes an abnormal death-rate in her offspring will naturally show up worse in a colony headed by a native than in one headed by an Italian queen. "Isle of Wight" disease is contracted by, and is fatal to the individual imago after she has started work as a forager, not to the brood, and consequently to the colony as a whole. When,, however, the death-rate exceeds the birth-rate the colony dwindles and goes out like a candle. The disease may, however, persist in a chronic state for a considerable time, during which the queen keeps pace with the death-rate, but is unable to exceed it with her laying, due, in some measure, to the lack of a sufficiency of nurse bees. Remove the cause, that is, provide ample food for a protracted period, but no fresh combs of empty cells, and, if the queen is up to her work, she will not only lay faster than the rate at which the field bees are dying off, but quicker than the rate at which the younger bees contract the disease. More bees will stay at home, the incidence of the disease will rapidly decrease, and the colony will recover. Hence, other things being equal, the more prolific the queen the better the chance of the colony fighting the disease.

4. The reason why requeening annually keeps "Isle of Wight" disease in check is clear from the foregoing. But from the very nature of it, a young prolific queen can do no more than delay the progress of the disease, and carry the colony, if it should contract it, on till the following spring, when, perchance, the conditions are less favourable, and the colony recovers under the new queen.

5. Little need be added to what has been said under 1. The colony which did not give a surplus occupied its time filling with honey several brood combs, which ought to have been visited by and reserved for the queen, with the result that it is in a natural contented state. It possesses stores in proportion to the amount of brood and in quantity corresponding to the season.

There are many other phases of the incidence of "Isle of Wight" disease which might be discussed, *e.g.*, an apparently healthy swarm—and I would parenthetically add that if my theory is correct a natural swarm cannot be infected with the disease—is attacked shortly after being hived on clean combs or clean foundation in a clean hive. But this letter is already long enough, and I will close by advising owners of swarms to keep the bees crowded in to a few combs, to extend very cautiously, and to be more concerned with the increasing of the stores than with the increase of the amount of brood. If the stores are right the bees will see to it that the brood is in proportion. Do not feed heavily until the bees have drawn out a disproportionate number of sheets of foundation, which the queen will have filled with eggs even before the cell walls were quite completed, and then leave the poor bees to find their own food. Remember the population has been dwindling steadily since the day you hived your swarm. You have induced the bees to feed the queen for a rapid ovipositing, which has produced several times the number of grubs that the colony would normally have reared had you left it alone, and that, too, with a decreasing number of nurses. When you suddenly withdraw your bounty and say to the bees, "Go to the fields and fetch your own food," you must not be surprised if, in its endeavour to restore the balance you so thoughtlessly and clumsily upset, your healthy swarm contracts "Isle of Wight" disease.

I shall welcome all criticism which will throw further light on this interesting question.—H. M. Stich, Paisley.

Doncaster and District Bee-Keepers' Association.

Annual Meeting.

The first annual general meeting of the Association was held at the Danum Hotel, Doncaster, on Saturday, March 15, at 3 p.m There was a good attendance of members.

The chair was taken by Gen. Bewicke-

Copley, C.B., who was unanimously elected President of the Association. The late President, C. Thellusson, Esq., had been unfortunately compelled to relinquish the Presidency through serious ill-health.

The first annual report was read by the Secretary, who stated that 58 members were enrolled the first year. The balance-sheet showed a balance in hand of £2 15s. 8d.

The Government re-stocking scheme was explained by Mr. J. A. Claxton, and it was unanimously decided to adopt the scheme. It is expected that three or four Dutch stocks will be allotted to the Association for the production of nuclei.

Mr. Claxton explained a scheme which the Association is to take in hand to rear Dutch-Italian queens to be supplied to the members later in the year for the purpose of re-queening their existing stocks. This scheme was unanimously adopted.

In the report the Committee offered their congratulations to the Secretary, the Rev. G. H. Hewison, on his having obtained the British Bee-keepers' Association's 3rd and 2nd Class Certificates.

The Committee, in the report, stated that the "Isle of Wight" disease is still alarmingly prevalent in the district, but they hope that, by the help of the re-stocking scheme, healthy and disease-resisting stocks may be built up and established. The Committee urged that diseased stocks should be destroyed, and that all hives and quilts and appliances be most thoroughly disinfected. The Committee wished to thank Mr. R. W. Merriman for his great kindness in placing a room at the Danum Hotel at the disposal of the Association for their meetings.

Questions, etc., for Bee-keepers for Self-Examination.

337. How many bees of each kind are there is an average colony?

338. How soon after a prime swarm has issued may an afterswarm be expected?

339. When comb is built without the aid of foundation what is the approximate proportion of drone comb in it?

340. Who and what were Collin, Evans, Burnens, Gravenhorst, Cheshire, Mehring, Hruschka, and Hoffman?

341. Describe exactly what happens, and how it happens, when a queen is "balled." What can be done to save the queen?

342. What governs the amount of water in nectar?

343. Name the organs in (1) the head, (2) the thorax, and (3) the abdomen of the bee.

344. In what organs is "royal jelly" produced?

345. Describe minutely the compound eye of a bee, and make a sketch showing all the parts from the cornea to the nerve.

346. How should the tongue of a bee be prepared and mounted as a microscopic object?

347. Draw a sketch of the digestive apparatus of the bee and give brief explanatory notes.

348. Make notes for a 15-minute lecture on "The Food of Bees other than Honey." J. L. B.

That Skep.

[9888] The controversy which is taking place in your columns (*re* "Isle of Wight" disease under the above heading) is most interesting, as some bee-keepers would have us believe that this might solve the cause of the dreadful malady which is wiping out our bees. The writer of letter 9861 seems to suggest that if bees are allowed to build up comb from their own pure wax, untouched by man or machine this would produce a healthier lot of bees. Other correspondents will tell us, we are wrong in our flat top frame hives, and that our only salvation is to go back to the old straw skep and boxes, dome shape roofs, etc., also years ago "Isle of Wight" disease was unheard of under the old system of bee-keeping under which the bees lived, whilst they die out under the modern methods. Personally these views do not appeal to me; I am no skeppist. Last autumn I paid a visit to a bee-keeper of the old school, who resides in my parish, and always keeps his bees in skeps and boxes untouched, and even refuses to take any surplus. He considers it a shame to rob bees of their honey after working so hard for it. He pointed out to me a couple of boxes of bees with self-built combs and dome-shape skeps covering the tops, yet I noticed that these were infected with the disease, and crawlers down in front of the boxes in hundreds. The argument used that bees in skeps and boxes are less subject to disease than bees that are housed in frame hives, to my mind, is erroneous. We that keep our bees in frame hives could use the same expression. The branch secretary of the B.B.K.A., for my district, kept his bees immune in frame hives, when all other bees in skeps and boxes from the sur-

rounding districts had died out, of disease. This, I believe, was due to the fact that his bees were more resistant; this also applies to the skep and boxes referred to by your correspondents from time to time. No, sir, nothing goes to prove yet, that we are wrong in our modern methods of bee-keeping. Have never heard of a single case of "Isle of Wight" disease in the land where foundation was perfected. I am afraid we shall have to look in another direction, and not in the structure of hives, etc., if we are to solve this great problem, which confronts every bee-keeper. We notice that the disease attacks the old bees of a community first; this alone suggests that the disease is contracted from without and not within. I am strongly of the opinion that the primary cause in the first onset of the disease making its appearance in this country lies in the polluted condition of our streams, which to my mind is a growing evil of late years, not only to insect life, but to the animal kingdom also. Only last summer, one of our leading farmers in the district lost a valuable cow from dysentery through drinking water at one of these polluted streams. If the germs of dysentery lie here, it is quite possible that these may prove a regular hot-bed for spores of *Nosema apis*. It is evident that Dr. Zander and other bee experts had this in mind when recommending the drinking fountain with an addition of salt, but we sometimes find our bees disregard these, and seek a more natural source. I have noticed bees in the spring clinging to the side of our brooks, taking water, where all kind of filth passes along. Much could be said on this if space permitted. Should like to see other views on the subject.—P. LYTHGOE, Padgate, Warrington, Lancashire.

Packing Honey.

[9889] The editorial on this subject which appeared in the JOURNAL a few weeks ago should be safely preserved by all who want hints on packing, and especially those who may be looking forward to the pleasant task of sending honey by rail for the first time. Having had many years' experience in packing, I can endorse every word of it. The cases—Tate's sugar boxes—are just ideal. These are of two types, one for cube sugar, and the other for granulated sugar in either four-pound or two-pound linen bags. The only difference is that the narrow cross pieces holding the end boards together are inside the former and outside the latter. (I can almost hear a smile. The idea of talking about hundredweight cases of such luxuries. But keep on smiling, the good things are coming back to us; sugar is getting more plentiful, and quite probably there will be no difficulty in getting these cases again before our honey crop is ready for bottling.)

I think Mr. Herrod-Hempsall generally advised two other points which have not been mentioned. Whether or not, they are points which I have practised, and found of great value in the safe transit of my produce: (a) Rope handles. Before starting to pack, drill two holes, about ⅜in., in each end of the box, say 4in. to 5in. apart, and about the same distance from the top of the case. Into these holes, insert each end of a piece of strong rope, and knot on the inside. Make them of such length that there will be sufficient room for an ordinary sized hand in the loop *above* the lid when lifting the box. This matter is important, and if neglected, the handles may be worse than useless. They may have to be handled by one man, and should those ropes be just short enough to bring his fingers into sharp contact with the end, or the top edge, of the case, his words will not be quite as sweet as the contents of the box. He has more respect for his knuckles than for all your precious honey. (b) After filling the box with the top packing of straw, split one of the three boards forming the lid in half, and discard one of the pieces. The boards will now be about three inches too narrow to cover the box completely. Divide this space equally between each board and the sides of the box, so that about an inch of the packing will be visible between them. This, I have found will, in nine cases out of ten, gain the desired effect much more certainly than a label printed in large red letters, "This side up, with care."

With these additional precautions, I have packed thousands of honey jars for transit, and have yet to receive my first complaint of a broken jar.—T. ALUN JONES, Halkyn.

"Looking from a Different Angle."

[9890] Granting for the sake of argument your correspondents have made out something of a case in their contention that bees in their wild state (namely, holes in trees or walls, under house-roofs, in iron columns, in neglected hives with *only an old sack for covering*, and to a lesser extent in skeps) enjoy, to a great extent, immunity from "Isle of Wight" disease, I should like to submit for discussion the following explanation. Under the above conditions the probable depth of comb is from two to three feet, in which case it is safe to say that in autumn the top 18 in. is solid stores. It is common knowledge that bees do not form their winter cluster on the sealed stores, but on the empty comb below that store, gradu-

ally moving upwards as the stores are consumed; this movement is very slow until quite well on into the spring. Therefore, during the whole of the inactive season, they have a large air space *above*, measuring from 12 to 18 in. in height. Our modern apiarist will at once argue that, with a large air space *over the top of the cluster*, there must be an escape, and consequent waste of heat.

There is an escape of heat, but I venture to say that if anyone who has not already done so will poke a hole *gently* through the quilts on a frosty day, and let the bulb of a thermometer rest about 3 in. from the bees, he will be amazed how very little heat is escaping, considering the temperature we know exists in the centre of the cluster.

With regard to the heat being wasted, who will *dare* to say our little friends waste anything, after reading only just lately that they chop up their old combs and use them for capping?

There is no more wonderful thing in the hive than the perfect way the bees ventilate during the active season. They leave nothing to chance, but have a definite system giving definite results, and I maintain that, if we did not hamper them by deliberately taking away the air space that they have provided at the cost of so much toil, their ventilation, even on the coldest day, would be as effective as on the hottest. We are always told to keep the heat in the top—the warmest place—which it certainly is in the summer time, but the only really warm place in winter is the centre of the cluster, which Nature never intended to be anywhere near the top. We all know that if the supers are left on until the brood nest contracts and winter approaches, the bees leave the top entirely and go down; not only that, but start at the *top outside combs and take the stores down too*. Imagine for a moment the cluster, and therefore the centre of heat, fixed low down under 18 in. of stores. The so-called waste heat from it rises to the top, and so creates a continual circulation of air; but move the centre of heat to the top and we get stagnation instead of circulation. The amount of air circulated is entirely dependent on the difference in temperature of the air as given off by the cluster, and the temperature at the top of the hive; therefore, the warmer the top gets, or, in other words, the nearer the cluster gets to it, the more heat they have to allow to escape from the cluster in order to maintain the same circulation. I cannot, for want of space, say nearly all I should like to, but, in conclusion, let me give two instances that came under my notice, which would cause any man furiously to think.

In May, 1915, a friend called me in to examine a stray swarm that had taken possession of diseased combs in one of his hives. I advised him to super straight away. In April, 1916, I had another look, and found he had neglected to take off the supers the previous autumn. I took off two lots of shallow combs and four standard frames of comb from the brood nest. The bees were perfect, and there was so much honey left that it was a marvel how they could have consumed so little. They again did well in 1916, and I took off surplus in September, when their condition appeared perfect. I packed them down nicely, and *thought* I had done them a good turn; but had I? For they were all dead by Christmas. The other instance was in an old woodman's garden, where stood a limb of a tree which measured 4 ft. 6 in. high and not more than 14 in. wide, outside measurement, so that there was a long, narrow hollow running from top to bottom. In that district "Isle of Wight" disease was carrying off bees galore. I asked how long the bees had occupied the log. He did not know how long before he cut it down, but it had stood in his garden for 24 years.—W. P. Lilwall.

Intoxicated Bees.

[9891] For many years I have noticed the wild bee is subject to a kind of intoxication which makes it stupid and slow in its movements, and seems to deprive it of the power of flight. What causes this I have not, so far, been able to decide. At first I was inclined to think that the nectar gathered from certain kinds of flowers was responsible for drugging them, and of these the purple knapweed, or "hard-heads," seemed to be the most potent, judging by the frequency with which I found the bees upon them in this stupefied condition. I have, however, found them on various other flowers. In Norway, some years ago, I noticed bees in this drugged condition, but they were mostly on the flowers of the scabious. Possibly the trouble may be caused by a certain state of the atmosphere, as this state of the bees seems to occur most frequently on sultry, warm days. A somewhat similar ailment has been noticed to attack bees when foraging upon the flowers of certain lime trees, only, in these cases they are much more severely affected, being found in great numbers beneath the trees both dead and dying. No satisfactory explanation of this has yet been given, but there seems to be little doubt that the bees are poisoned in some way by what they gather from the lime tree blossoms. Probably if the nature of this poison could be ascertained it would provide an explanation of the affection from which the bees suffer when foraging on certain wild flowers.—D.

Special Prepaid Advertisements.

One Penny per Word.

PRIVATE ADVERTISEMENTS.

EIGHT W.B.C. hanging frame Section Boxes, excellent condition, beautifully clean, 3s. 6d. each; lot 27s.—J. JEAL, Oxted, Surrey. p.1

10 STRONG Stocks Italian Cross for sale, £4 each, on standard frames; good "I.O.W." disease resisters; overstocked.—GRIFFIN, Brook Farm, Colnbrook, Slough. p.2

SEVERAL Surplus W.B.C. Hives for sale, nearly new; would accept part payment strong skep Bees.—THOMPSON, Muschamp Villas, Warsop. p.3

TAYLOR'S hive, rack of sections, smoker, excluder, feeder, new condition; £1.—DAWSON, 6, Western Road, East Finchley, London. p.4

CAN spare a few stocks of Dutch Bees, on six Standard Frames, 1918 Queen, April delivery; price 45s., carr. paid.—W. CHANNELL, Grove Apiary, Histon, Cambs. p.5

FOR SALE, 7 dozen first-class sections; price, 30s. per doz., carriage forward.—HOWE, Darling Street, Enniskillen. p.6

THREE STOCKS of Bees for sale, Dutch hybrids, all with young Queens.—LAWRENCE, Hill Top, Upper Warlingham, Surrey. p.7

HONEY EXTRACTOR, no gear, 35s.; super clearers, 2s. 6d.; spring escapes, 6d.; excluders, 1s.; W.B.C. shallow supers, 3s.; honey labels, 1s.; 100 hive cones, 6d. pair; Brico swarm catcher, 3s.; card section cases, 8d. doz.; carriage extra.—KENT, All Saints' Road, Dorchester, Dorset. p.8

WANTED, Strong Stocks of Bees, Italian or hybrid, 1918 Queens; must be free from disease; April or early May delivery.—Price to ROWLANDS, Chester Road, Aldford, Chester. p.9

BEEHIVES, modern, newly painted, good condition; many accessories. What offers? Compulsory sale.—BICKNELL, St. Minver, North Cornwall. p.10

FOR SALE, Taylor's Honey Press, used once, good as new; what offers?—NELSON, Paradise Cottage, Appleby, Westmorland. p.11

WANTED, by the Notts B.K.A., Expert, preferably female, April-August, 1919, to work the re-stocking scheme.—State qualifications and salary required to G. HAYES, 48, Mona Street, Beeston, Notts. p.12

TOURING EXPERT wanted for Northumberland Beekeepers' Association, for four weeks, from middle of May. State terms.—Apply, MR. R. ROBSON, Cheviot Street, Wooler, Northumberland. p.13

AT the request of many 1918 D.B's. those initials in 1919 will stand for "Determined Beekeepers." In answer to other requests, Chapter III., "Let the Bees Tell You," will be printed and delivered before May 1.—S. H. SMITH, 30, Maid's Causeway, Cambridge. p.15

WANTED, strong, healthy Stock; early April delivery. — BURGESS, Knighton-on-Teme Vicarage, Tenbury, Worcs. p.19

WANTED, strong Stocks, also Fertile Queens, Italian; good price for early delivery; no rubbish required.—BAXENDALE, 1, Kennedy Street, Manchester. o.47

24 DOZEN clean, well-filled and sealed Clover sections, over 16 oz. each, at 32s. per dozen; also 5 dozen Heather Sections, at 36s. per dozen; packing free; carriage forward.—H. C. GIBSON, Ballygowan, Belfast. o.49

THREE 20 lbs. English Clover Honey, splendid flavour, screw cap bottles, carriage paid, £6 5s., or divide.—WILLMOTT, Apiarist, Higham Ferrers, Northants. o.55

WANTED, bound vols. BRITISH BEE JOURNAL, 1875-74-75, and from 1892 to 1917, with the exception of 1898. Must be in good condition and reasonable price. Deposit.—Box 12, B.B.J. Office, 25, Bedford Street, Strand, W.C.2. p.20

MAY-JUNE DELIVERY.—A limited number of four-frame Nuclei, headed by 1918 Italian Queens, price £3 3s. each, carriage paid.—Box 9, BEE JOURNAL Office, 25, Bedford Street, Strand, W.C.2 o.19

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

WANTED, healthy Stocks of British Bees, strong, on six, eight or ten frames, that have not swarmed; not to be delivered before June 11 or after June 21.—PRYOR, Breachwood Green, Welwyn. p.14

ALBERT N. HOPKINS, Breeder and Importer of best strains of Italian Bees, is now booking orders for his reliable, established four-frame Nuclei, quickly becoming strong colonies; guaranteed healthy; price moderate; particulars on application; 22 years' practical apicultural experience.—Woodland Valley Apiary, Lyminge, Folkestone.

VIRGIN QUEENS, disease resisting, leather coloured, bred from our best Italian stock, booked now; delivery end of May, 5s. 6d.; June onwards, 5s.; safe arrival guaranteed. If injured in introducing will replace at half price on return of dead queen.—APIARY, Buckfast Abbey, Buckfast, Devon.

STRICTLY BUSINESS.—To clear the small available stock of Flavine Candy; 5 lbs., 5s. 1d.; 10 lbs., 9s. 8d.; 20 lbs., 19s. 4d.; post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. p.16

RE-STOCKING.

Rear Queens, and begin now. Complete Outfit, 2 frames, 10 waxed cells, 12 cages, jelly spoon, transferring needle, instructions, 15s.; postage, 6d.

KAT-A-LOG, all latest, up-to-date Appliances, post free,

MEADOWS, SYSTON, LEICESTER.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

THE PREMIER BEEHIVE CO.,
BYRON STREET, LEICESTER.

Are now booking orders for Nucleus, Italian-Dutch Hybrids, 2, 3, and 4 frames, 35s., 47s. 6d., and 60s. respectively. Orders delivered in rotation as booked.

Try our Premier Standard 10-frame Hive. This hive has all our latest improvements, absolutely the best constructed hive on the market, every hive guaranteed interchangeable; price, 42s.; with three coats of paint, 6s. 6d. extra.

We also make Standard Nucleus Hives to take 5 frames, which we recommend for nucleus-making; price, 17s. 6d.; three coats of paint, 2s. 6d. extra.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur"

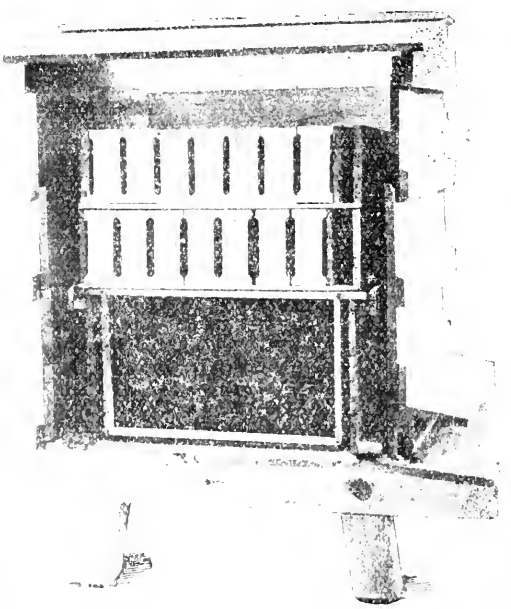
Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

NEARLY 50 YEARS ESTABLISHED.

KENT BEE HIVE WORKS.



The oldest establishment in the Kingdom wholly devoted to Bee Appliance Manufacture. W.B.C. Hive, as sketch (outside square cases). Brood Box (11 frame capacity), 2 supers (room for 3).

Painted, complete, as above £2 14 0

Fitted wired foundation ready for working... ... £3 16 0

Full List of everything connected with Bee-keeping.

S. J. BALDWIN,

The Apiary, Bromley, Kent.

The Size of the Journal.

No doubt our readers have noticed that for the last few weeks the JOURNAL has reverted to its original number of 16 pages. We hope to be able to continue this in the future, but it will depend on the amount of support we receive, as this addition means also a very considerable addition to our expenses. Paper is certainly more easily procurable and cheaper now, but that does not affect us at present. We do not go out and buy paper for each issue, much as one goes to the grocer for the week's supply of household necessaries, and we are still using, and shall be for some time yet, paper that was bought during the war. Printers are following the example of Oliver Twist, and are continually asking for "more," in the shape of wages, so that item instead of dropping since the Armistice has kept on increasing. Only a fortnight ago we had a further 7½ per cent. added on to our printer's bill, with a promise of possibly more to follow. We are therefore unable to reduce the price of the paper at present, however much we would like to do so.

A Dorset Yarn.

To hear our bees out to-day, Saturday, April 5, after the syrup (we have it on an empty hive, and they are quickly carrying it away), the chorus of so many thousands is exhilarating to the enthusiastic bee-keeper. How so many can get their tongues through the holes in the three-ply covering is beyond me; they all seem to be on top of each other, and a quart of thick syrup is soon taken away. The sun seems to keep it warm for them. The music is loud, as if they were getting something good, and they are "sounding the loud timbrel." My lot ought to do now; there are plenty of flowers open for them at midday. Every day something new is open for them. The almonds and peaches are beautiful. Yellow predominates on the soil with celandines and dandelions.

I saw some pears open on the walls in the gardens at Sherborne Castle. Bees were on them, as they were on the peaches. They were blacks; these seem to be the most in numbers in Dorset. They were flying on the wallflower plants among the ruins of the famous old castle. These wonderful old walls, with the Norman arches still intact as they were hundreds of years ago, is the home of the Digbys. Generation after generation have lived there. In the old abbey the beautiful carved figures tell again of the residents of the castle who have "crossed the bar" in the days gone by. This abbey is one of the most beautiful in Dorset; everything is of interest to one who loves to see all that is made beautiful in the temples of Christ.

What a variety of flowers there are in these old gardens! Plants, etc., from every land and every clime that will withstand our winters have been planted, to make still more beautiful a fine old place. No wonder the owners are proud of their beautiful surroundings. The soil round Sherborne is adhesive, but when well tilled is very productive. These gardens give some of the finest apples and pears in England, and the old gardener is considered the finest judge in the country.

Writers to the farm tell me of some of their stocks that have gone under, but most of them have some left to carry on. One letter last week, in giving me an epitome of the writer's experience with bees, had all his wife's lot die one year, and the next year it was his lot that went under—yet always some to carry on so that the race should not become extinct. Makers of special hives send me descriptions of their handiwork. I do not remember seeing anything quite like them in the JOURNAL. The inventive genius is not dead among bee-keepers, but very much alive to the wants of bees and their manipulation.

Mr. MacPhail, our horticultural instructor, paid me a visit this week. He came to see our school gardens, and the bees and fruit trees at the farm. He spoke highly of the lecturer for the County Council (Mr. W. Herrod-Hempsall) in the Dorchester area, even though the motor broke down and left them stranded in the wilds of Dorset when going from centre to centre. Mr. Herrod-Hempsall's lecturing tour would make interesting copy. His journeys to Holland for bees for the re-stocking scheme of the Government will be of interest to us bee-keepers, but letters to me are against the Dutch bee. Still, we cannot re-stock without a good lot from some source or other: better Dutch than German. Yet it may be the Dutch is German in origin.—J. J. KETTLE.

[It is not intended to stock the country with Dutch bees. The nuclei that are sent out *must* be headed by Italian or Italian hybrid queens, *not Dutch*.—EDS.]

The Egyptian Bee.

Dr. Gough's interesting article on the Egyptian bee is timely and welcome. It is sufficient to show that one has been entirely led by scientific data in advocating experiments on the Egyptian bee, with the object of raising an appreciably immune strain of bees. Of course, the apparent immunity of pure Egyptian (and, in fact, of hybrid bees in Egypt) to bee infections may be unfounded, since the beneficial factor of favourable weather must be taken into consideration. In fact one has reasons for believing that, were it possible to substitute Egyptian weather for English weather, the marked fatality of "I.O.W." disease would cease to exist, because apart from the stimulative influence of the Egyptian weather on almost continuous breeding (and therefore on *compensatory breeding* for abnormal mortality), the regular cleansing flights which it equally stimulates save the bees from the accumulation of toxic waste products; thus instead of fighting two enemies at the same time, their natural resistance is left to fight with infection alone. It is my contention that *metabolic poisoning* from wrong dieting, and prolonged confinement, is more important as an injurious instrument than infection itself, and to correct the former factor would be to strike a discouraging blow at "I.O.W." disease, since it is not possible for one to entirely exclude the incidence of infection by prophylactic measures, although properly conducted inspection and education will considerably help to minimise the incidence of the disease, and will afford a sounder policy towards its eradication than the haphazard policy of "specifics" and "cures."

It would be interesting to note, by critical inference from prolonged breeding and modern training of the Egyptian bee under English conditions, what qualities are inherent, and what defects are due to faulty training through decades. Although the Nile Valley is not a land of forests, established swarms accommodate themselves in a wild state in various situations, and not necessarily in trees, but naturally not to the extent met with in Great Britain. Popularly speaking, Egyptian bees, as kept in their native land, are in a wild, or a semi-wild condition, since they are exposed to a non-humanitarian treatment which cannot fail to contribute to their viciousness. In addition, they have been kept for decades in small hives, which do not accommodate strong colonies; therefore it is not a superstitious theoretical deduction to presume that this, in conjunction with the factor of hot weather, was responsible, at least in part, for exaggerating the swarming temper in these bees, although its present features are rather irregular. Drones have therefore to be tolerated all the year round, and numerous queens have to be reared. "Fertile workers," following the principle of division of labour, make their appearance, since drones under such conditions cannot be dispensed with. There is no practical evidence to show that drones derived from such fertile workers are defective. The Egyptian bee has been trained (for a considerable long period under faulty management) to compulsory swarming, encouraged also in this respect by the hot weather of its native land; and this bad training appears also to share in the responsibility for other defects.

The size of the Egyptian bee will naturally guide spacing, and there is no difficulty in manufacturing a correctly spaced queen excluder. It is generally mentioned in most apicultural manuals that a bee space is $\frac{1}{4}$ in., in others is it given as $\frac{3}{8}$ in., but the latter is sometimes disputed without explanation. The fact is that whilst $\frac{1}{4}$ in. bee space is sufficient for pure Italians, $\frac{3}{8}$ in. space is probably more desirable for comparatively large strains, such as the Dutch bee and the predominant English bee. Similarly a smaller space is necessary for smaller-sized strains, such as the Egyptian bee.

Unless a good hybrid Egyptian strain could be ultimately raised, the *pure* Egyptian bee may not prove to be of special commercial value in this country, when its defects are borne in mind. Dr. Gough says that "the Egyptian bee hybridises readily with other species"; other observers, however, seem to think that she has a *selective preference* for her strain. This selective preference of the bees in general is clearly reflected in their determined opposition to the introduction of a foreign queen, as testified to by Dr. Gough.

Considering that the object one has in mind in experimenting with the Egyptian bee is to evolve a better immune strain than the leather-coloured pure Italian bees, which hybrid strain must fairly approximate to the English bee in being acclimatised, an Egyptian-Italian hybrid would appear to be more promising as a subject for investigation, since the factor of immunity is of great importance, and the good adaptability of the Italian bee to various climatic conditions is an established fact, although opinions may vary as to the extent of this adaptability to

English weather, in comparison with the established acclimatisation of the predominant English bee. Research, however, should neither be prejudiced nor limited.

Amongst the good features of Egyptians, on the other hand, is that they are very prolific, non-propolisers, and good workers. It would be interesting to find out the possible increase in their degree of activity resulting from their transference from a warm land "flowing with milk and honey" to a country of opposite atmospheric conditions, necessitating a great summer activity on the part of the bees.

Regarding the problem of *wintering* Egyptians, I am informed by Mr. Frank Pellett, the learned associate editor of the *American Bee Journal*, that "those who have tried Egyptians here (*i.e.*, in the U.S.A.) state that instead of gathering in one large cluster, they make numerous small clusters in different parts of the hive which are unable to gather sufficient heat to withstand our winters." The remedy for this defect is indoor wintering at a protective temperature. It is interesting to recall in this connection that I have met with this condition to a partial extent amongst European bees, and my explanation has been incorrect hive equipment causing *avoidable starvation*." This subject is briefly discussed in the current issue of the *Bee-Keepers' Record*.

Hygienic Floor Board.

Since Mr. W. H. White gives the *disadvantages* of a removable floor board, it would be equally interesting to know what he also thinks of its *advantages*, as his interesting letter indicates.

A hygienic floor board is perfectly valueless as a disease preventer, if other and more important factors concerned are to be ignored. I merely intended to draw attention to, or to emphasise, the significance—whatever its degree may be—of disregarded etiological factors in disease causation. It was not part of my intention to dwell on points that have already received full attention from the majority of apiarists. Similarly, a ventilating floor board is not the only remedy needed for discouraging, or preventing, the complicated problem of swarming. It is useless to discuss these matters merely from one point of view.

One or more simple and suitable removable floor boards (so far as the space under the stock box is concerned) could be constructed for a W.B.C. hive. I am already the possessor of such a hive. It is a matter of design that will make the construction serviceable or otherwise.

When the value of any appliance has to be considered, its advantages should be critically and impartially compared with its disadvantages, and the result of the comparison alone should be the judgment. It is impossible to exclude propolising or its equivalent from the hive, yet this does not lead us to exclude useful equipment. Therefore, considering that the end of the propolising season in cold countries is the time when colonies are attended to in preparation for wintering, and that the value of this hygienic floor board is especially demonstrable in winter, and with the regular use of a suitable antiseptic ointment as a lubricant, the effect of propolisation is almost excluded during the cold season, and the sanitary advantage of such a removable floor board secured.

I quite agree with the remark relating to the swelling of a non-painted bottom floor board, but it is an early suggestion of the writer that it should be painted; moreover, there is no need for having this lower floor board tightly fitting. Since it is removable, the condensation of moisture on it will not be objected to, as this is clearly preferable to its deposition on the top floor board. I agree also about the effect of the light in inducing propolising; in fact, the space between the two floor boards is in itself an inducement to this. But, in the first place, the drawing out of the bottom floor board is no more than a temporary procedure; and, in the second place, a frame of perforated zinc (unlike wire cloth) is no great trouble to relieve of propolis. One's object cannot be nullified unless perhaps at the hands of the Tunisian bee, or her allies. The remedy is simple.

Safe Queen Introduction.

On referring to Dr. Miller's valuable manual "*A Thousand Answers to Bee-keeping Questions*," which I have not procured till quite recently, I note that he considers the safest method of queen introduction one allied to that independently thought of, and recommended in connection with the *brood-hatching chamber*. I do not know in what year was his advice given on this question, and it is a matter of surprise to me that the composite structure of the above-mentioned chamber, as a regular part of the modern hive, and as an efficient instrument for facilitating this introduction, was not evolved earlier. To the fertile brain of Dr. Miller the compliment is therefore due, especially as there is an unfortunate habitual tendency amongst some apiarists to ignore the fruitful efforts of their colleagues, and to repeat their views without the courtesy of reference met with in every respectable literature. It is no

doubt a tedious editorial task to comment on such matters, but the educational service which is likely to be rendered from pursuing this course is not small. The editors of the Bee Press are in the best position to get access to much of the existing bee literature, whether modern or old, and are best qualified for such guiding comments and criticisms, which should always be sought and appreciated by fair-minded writers.

Dr. Miller's method as described is suited only for the formation of a new colony by means of the available queen and the hatching bees. By the use of the *B.H.C.* the following advantageous improvements and modifications are introduced:—

(1) The newly introduced queen could be confined to the central incubating compartment of the *B.H.C.*, whether for trial or otherwise, in the presence of the old queen in the brood chamber below. As soon as the former has settled down and safely acquired the odour of the hive, the solid shutters closing the holes in the side walls of the central compartment could be easily replaced by queen-excluding shutters. In this way two queens could be accommodated if desired in the same hive for some time without prejudicing supering, although attention has naturally to be given from time to time to the inspection of their food stores and their nurseries. The advantage gained by this procedure, if early adopted, lies in the fact that a respectably high percentage of *young* bees will be added to the population of the hive before the incidence of cold weather. *It is common knowledge that without the dominant presence of young autumn-reared bees no colony is capable of safe wintering.* I need not give manipulative details.

(2) By having bee escapes at the base or the sides of the central compartment of the *B.H.C.* none but very young bees will populate this compartment; and *at any time*, in the presence of hatching brood, queen introduction could be effected instead of making beforehand special preparations for introduction.

(3) By having a communicating aperture (with a suitable shutter) at the base of the central compartment—the hole for a loosely fitted bee escape will answer the same purpose—this could be opened after the lapse of a week or so, when it is desired to unite the new queen and bees to the old bees below, that have been previously dequeened.

All these practices do not prevent either the increase of the poulation of the hive or the ordinary management of honey production.

Queen Mating Without Flight.

Considering that the factors underlying the mating of the queen outside the hive are little understood, and that the possibility of *queen mating inside the hive* through artificial facilities has not been examined, it is worth while for more than one apiarist interested in research to experiment with a virgin queen confined to the central incubating compartment of the *B.H.C.* in the presence of sufficient food, some uncapped brood, *few young* workers, and *many* trapped drones. It is theoretically feasible that the *old* workers in the hive normally obstruct and prevent such facilities for mating, acting in this way as Nature's safeguard against "in-breeding." There are other theoretical arguments, however, against this explanation.

Microscopical Studies.

In the *American Bee Journal* for February, 1919, Dr. Brunnich, of Reuchanette, Switzerland, offers an interesting explanation for the *rectal glands of Chun*, both regarding construction and function. Their histological features permitted him to conclude that they are possibly concerned with the excretion from the blood of excessive water, absorbed through the lining membrane of the honey sac from the nectar gathered, and that they appear to be capable of double filtration. Developing this idea, one may consider them, so to speak, the "kidneys" of the bee, which indirectly help in concentrating the nectar during its transformation into honey, and directly aid in "washing" the blood. Supposing this explanation is correct, it would be feasible to presume also that an additional benefit from the dilution of the blood is to raise its pressure, and thus help the bee to carry her load to the hive, since a higher blood pressure would presumably aid the bee in her heavy flight. Following this line of argument, it is feasible again to suspect that probably some irritation, or lesion, of these glands occurs in the pathological *diarrhœa* of bees, and that by excessive secretion of fluid the blood pressure is abnormally lowered, indirectly causing disability of flight. The apparent *dislocation of the wings* might be either accidental, from fruitless attempts at flight, apart from being a sign of debility in *old* bees which are not otherwise diseased, or might be the result of loss of muscular tone, and partial nerve paralysis, resulting from metabolic toxæmia. The same theory of blood pressure which I suggest would hold equally well with normal, but *chilled bees* that are unable to fly. Since the blood pressure is dependent both on the rates of the heart beat and respiration, apart

from the volume of the blood, and since the rapidity of these rates is governed by temperature, it follows that the blood pressure of a chilled bee is bound to be low. This theory is further capable of explaining certain phenomena which I shall incorporate in my "Notes on 'Isle of Wight' Disease" in the *British Bee Journal*.

British Bee-Keepers' Association.

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 25, May 2, 9, 16, 23, 30, at 6.30 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to

W. Herrod-Hempsall,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

Northumberland Bee-Keepers' Association.

ANNUAL MEETING.

The anual meeting of the above was held at the Black Bull Hotel, Morpeth, on Thursday, March 30. Ald. John Wilkinson, of Ashington, occupied the chair

The financial statement showed that the income totalled £33 5s. 11½d., and after defraying expenses left a balance of £12 17s. 7d.

The report of the committee stated that prospects were much brighter than a year ago. Now that the fighting had ceased, and the forces were being demobilised, they should have again with them many members who had been fortunate to come through the great war safely, and by them, indeed, the smoker and bee-veil would be more admired than the rifle and gas-mask. It was a pleasure to look forward to the return of their worthy hon. secretary, Major Sitwell. The Government was now realising the importance of bee-keeping; therefore the future for it looked brighter. It was evident that before long they should have legislation to check and prevent the spread of disease. The committee hoped that all members would sign the petition in favour of legislation. Papers would be sent round for signature in the spring. The season of 1918 had been fairly satisfactory for the flower season. The long drought in the summer, and the inclement weather in the heather season had curtailed the tables of the much prized heather honey. It was expected that there would have been more nuclei to send out to members, but owing to war conditions they were unable to obtain queens. During the past year 29 new members had joined the Association proving the great interest that was now being taken in bee-keeping.

As the "Isle of Wight" disease was still with them, members should use all precautions in medicating bee food, in spraying with a solution of Bacterol, and also in being particular in the purchase of swarms and stocks. They were to receive sugar through the Horticultural Food Committee. Care must be taken, however, to medicate the syrup before giving it to the bees with one of the advertised preventives.

With regard to the re-stocking scheme, it was gratifying to the committee to note the great interest that members had taken in the nucleus hives of the Association with which they had been entrusted. They had conformed in a remarkable way with the spirit of the rules, and thus had enabled others to become holders, in trust of stocks for the benefit of themselves and the members of the Association. These nuclei were sent out to members who had lost their bees, free of charge, except carriage. Members accepting the same agreed to return a nucleus of the same size the following season to the Association to be used in the same manner—to furnish other members who had no bees, and who wished to start bee-keeping again. Members who held those stocks, and who required advice should apply to the nearest member of committee or local secretary in the district for assistance.

The report on the Bee Committee of the Northumberland Sub-Committee was submitted, which dealt with its inception and constitution. At a meeting of the Bee Committee in January last the following resolution was adopted:—"That the Joint Bee Committee of Northumberland are of the opinion that the bee-keeping industry will not be safe until we get legislation which could be easily effected by adding to the present Diseases of Animals Act the clause 'this includes bees.'"

On the instruction of the committee this resolution was submitted in turn to the Horticultural Sub-Committee and the Northumberland Agricultural Committee, confirmed by those authorities and forwarded to the Board of Agriculture, who have replied to the effect that while the matters dealt with in the resolution had received thorough consideration by the Board, nothing was proposed to be done at present.

The Duke of Northumberland was elec-

ted president. Hon treasurer, Mr. R. Robson, Wooler.

Mr. R. Robson agreed to continue as hon. secretary until the return of Major F. Sitwell, Ord Hill, from military service.

With reference to the re-stocking scheme, the Rev. J. Shotton stated that the Association had purchased five stocks of Dutch bees, and also ten Italian queens at a cost of £17 10s. The question was how were they to be placed. There was some difficulty about that. Mr. Robson had an idea that if they had a soldier from the war who had a knowledge of bee-keeping that he might take that work in hand, or some of the members in the Wooler district, who were keen bee-keepers, might take it in hand, and thus get rid of those five stocks. Those stocks had to be treated in a certain way. As to price, it was thought that those which were ready to be sent in June should be paid for at a higher rate than those in July or August. The idea was that a small committee be formed with the view of having the matter considered. In a letter sent by Major Sitwell it was stated that in the interests of bee-keeping in the county, and the vital necessity of re-stocking, additional advantage of the re-stocking scheme should be taken and not to hamper the other work of the Association, members desirous of taking advantage of the re-stocking scheme should subscribe shares of 10s. each. Mr. Shotton thought they need not go in for shares.

Mr. J. Smith, Benton, proposed that a nucleus be supplied to members who applied at £1 10s. each, with expenses. This was agreed to.

Mr. J. Embleton, Morpeth, remarked that in his district they had had the disease for some years and never seemed to get rid of it. He thought that the committee should know that the districts where the new bees were going to were free from disease, and had been free for some time.

Mr. R. Robson, Riding Mill: Can you find a place in Northumberland where it is free?

Mr. Embleton: If that is the case then the committee will have to find a safe place.

The question was left in the hands of the committee.

On the motion of the Rev. J. Shotton it was agreed that if the committee found things favourable, a touring expert be engaged.

Messrs. W. Sanderson and G. G. Butler were appointed the Association's representatives to the British Bee-Keepers' Association.

A vote of thanks to Ald. Wilkinson for presiding concluded the meeting.

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

349. Describe a skep and state its economic uses.

350. When a swarm (with the queen) issues, how do the bees in the parent hive raise another queen?

351. What is recommended as the most suitable capacity (in cubic inches) of a hive for use in this country?

352. How and where is pollen stored by bees, and how and when is stored pollen used?

353. What should be done in an apiary in anticipation of swarms?

354. What conditions contribute to the excessive gathering of propolis?

355. Explain the terms bee bread, bee glue, bee line, bee space, bee plants, brace combs, brood, colon and ganglia.

356. What are the arguments for and against the theory that drones are required in a hive to keep up the temperature?

357. Wherein do the legs of a worker bee differ from those of a queen and of a drone?

358. Name the spore-bearing bacteria found in apiaries.

359. Draw sketches of brood in all its stages.

360. Name the plants which in this country are most valuable for pollen, and state the time in the year when each is in bloom. J. L. B.

CORRESPONDENCE.

Wintering Bees.

[9892] Permit me to thank Dr. Abushâdy for his courteous reply to my criticisms. Without wishing to draw him into a lengthy correspondence, I should like to make a few comments on what he says.

I quite recognise that *protection*, or the use of *artificial heat*, is only part of a general scheme of hygienic bee-keeping; but, however reasonable in theory, it is the one point in the scheme which seems most open to objection from the practical bee-keeper's point of view, and, as such, I selected it as the object of my criticisms. In such matters as cleanliness, the use of antiseptics, etc., most enlightened bee-keepers are agreed. The fact that I did not refer to these matters, then, must not

be taken to imply that I regarded Dr. Abushâdy as advocating *artificial heat*, and nothing else, as the sovereign remedy for all our troubles, but he has made this question so peculiarly his own that he must not be surprised if his name comes to be associated with it.

It matters little to me whether we speak of "'Isle of Wight' Bee Disease" or call it "a group of abnormal conditions." My contention is that before the "abnormal conditions" prevailed, say, in the year 1900, when I commenced bee-keeping, bees wintered so well, that there could have been no point in adopting any but the orthodox out-door system of wintering. Dr. Abushâdy and I differ on a point of fact. He thinks bees wintered badly (or not as well as they might), and claims that his view is supported by large bee-keepers and others. I think bees wintered well, but I have only my own small experience to go upon, as I never discussed the question with any large or famous bee-keepers, having no need to seek advice on that point, as the orthodox methods proved so entirely successful in my hands.

I fully realise that Dr. Abushâdy's *winter apiary* is intended to combine the merits of both cellar and outdoor wintering, but unless he can give *proof* that it avoids the abnormal winter losses we have suffered of late, I do not see what we shall gain by it, as the old method *used* to do so well. Dr. Abushâdy promises to give the proofs, and I await them with interest.

It was once the custom to fill the space between the walls of double-walled hives with chaff or cork-dust. This plan has since been abandoned. Why? Because it was found unnecessary.

If sugar is so inferior to honey as food, why do certain large bee-keepers in some parts of the U.S.A. say bees cannot winter on dark honey in their locality, and consequently they are obliged to extract all honey found in the brood-nest at the close of the season, and replace it with sugar syrup? (See Hutchinson's "Advanced Bee Culture" and other works.)

It is a great pity we do not give more attention to scientific queen-rearing in this country. I cannot help thinking the superiority often claimed for the Italian bee is due largely to the care with which it has been bred, particularly in America. If only our own native bee had received the same attention! The fault lies partly in the natural conservatism of the Englishman, which makes him unwilling to try new methods or improve on old ones; partly it is due to the (to my mind) mistaken policy of our Bee-Keepers' Associations, in directing their energies mainly to gain new recruits to the craft, or to instruct its most ignorant members, instead of encouraging those who are already competent to advance still further. The B.B.K.A. lectures at Golders Hill are a step in the right direction, but we ought to have the same sort of thing in every county.

I fear most bee-keepers do not detect disease until the crawling stage is reached, though I have done so earlier. The "hoarse voice" mentioned by Dr. Abushâdy is new to me. I will certainly look out for it in future. Although I have spent my life in the study and practice of music, and possess a very fine ear, including the faculty known as "absolute pitch," I have never, so far, heard what Dr. Abushâdy alludes to, nor has it ever been mentioned by any bee-keeper I have met.—L. ILLINGWORTH, Shirley.

The Scope of Bee Culture.

[9893] When the time-honoured principal of gauging apicultural knowledge in terms of "years" is so well-rooted and carefully watched over by its many apostles, it is rather a rough, and a thankless task for one to endeavour uprooting such an unreasonable principle, which is so devotedly worshipped.

A skeppist, or a comparatively modern bee-keeper, can safely make the claim nowadays of being an "authority" on bee-keeping so long as he belongs to a bee-keeping family, and has occasionally managed bees, or greeted them in the course of so many years. . . . This claim, however, may be disputed by the better educated gentleman, who has read a practical manual, and benefited by a practical course of instruction, which has entitled him to secure in the course of one year or so an "expert" certificate. Either of these gentlemen may never care to study his subject for months, or years, nevertheless, each of them still remains an "expert," and as years pass by, whether they happen to "keep" bees or otherwise, and irrespective of a complete apathy towards research, they both become authorities of their science and craft. This state of affairs, however, will not be tolerated by a third class of commercial "authorities," who, although having kept bees for years, they nevertheless have studied the habits of their pockets better than the habits of their bees. Most of these types of gentlemen solemnly assert that such experienced apiarists as Allbon, Bartlett, Judge Lamb, McDonald, Reid, Simmins, Tinsley, and others, know "*nothing*" about bees; and amongst this turmoil of ridiculous professional jealousies no other voice could be heard, not even of the very few of our brilliant apiarists. They are forced to assume

an attitude of indifference, and to join the ranks of those who are satisfied with what they have learnt, preferring to be on the retired list.

To belong to a bee-keeping family, as I partially do, or to be partly familiar with bees for years—and it has been with me a life-long pleasure, although apicultural conditions in the Nile Valley are very primitive—are no apicultural qualifications for my humble person; and I regret my inability to follow many precedents. My acquaintance in a practical way with English apiarists and English methods of bee-culture is comparatively recent, as, in fact, I did not see the soil of Great Britain before 1912, and did not independently reside in London before 1916. Nevertheless, had I been able to keep bees, whether regularly, or interruptedly, in the usual fashion of indifference, or commercialism, for a quarter of a century or more, I would still have considered myself no more than an average apiarist, or perhaps a beginner. True, the principles of bee culture, and its various fields, could be safely covered in one or two years by a diligent student, not necessarily under the guidance of a teacher, but the limits of experience in this matter, as with everything else, are unbounded, and could only be extended by continuous observations, honest self-study, and careful research. *There is also a great difference between theory and practice.* This view will be challenged by the "age party" who profess that bee culture is such a mysterious craft, compared with its obscurities astronomy and aviation will count for nothing! You have to be a bee-keeper "for years" (and then it is perhaps doubtful in case you have no bee-keeper relation!) before you can realise that a bee has five eyes and can breathe with her abdomen. . . . It does not matter much, however, how long you have actually attended to bee colonies, or how long you have independently thought of them, and watchfully studied their habits under various conditions. It will suffice for you to learn by heart some orthodox maxims, and later to forget them, or to point to an old copy of a bee-keeping manual in a remote corner of your study, and it is optional to you after so many years of bombastic and empty preaching to compare your wisdom and experience with the justified and rare authority of such international leaders as T. W. Cowan, C. P. Dadant, C. C. Miller, and E. C. Root, who have regularly spent scores of years in deep literary, scientific, practical, and commercial study of bee culture, and who benefited by their mature knowledge and experience more than one nation.

The advocates of such narrow-minded principles, chiefly under the impetus of commercialism, do not show themselves much in print, but they carefully plan and spread their views by other means. They are responsible for many hindrances to the progress of bee culture in the light of internationalism and scientific knowledge, for the creation of "cure parties," for hampering the unity of bee-keepers in Great Britain, and for many other evils. The people of the "Mother Hive" might have known, and told Kipling, about Cheshire, Root, and Langstroth, but this class of apiarists do not even recognise the past existence of such great men as real bee-masters, and only recognise the existence of themselves, and their superstitious teachings. They confidently assert that the bee literature in existence is only good enough as waste paper, and that it is a deep sorrow to their hearts that their time absolutely prevents them from creating a new gospel. They would sneer at the views of those who have not rivalled them in their misadventures, but they would readily copy their ideas at a later opportunity, without any formality whatsoever, owing, no doubt, to their longer acquaintance with beeswax and propolis! The able editor of *Gleanings* might be conscientious enough to acknowledge such a common-sense and a comparatively old practice as the *Holterman Fence*, but this class of apiarists—who are not by any means insignificant in number—would not respect the originality of even better developed ideas. They do not trouble to investigate, but they can generously offer the industry (as pointed out too by other writers) the "free" use of articles which they did not succeed in creating, and for which they overcharge the industry in comparison with the charges for the original protected articles, as such an overcharge is, in their opinion, just the expression of the generous principle of "free" use. . . .

No doubt, the editors of the BRITISH BEE JOURNAL must have had such men in mind when they commented on the *constructive* criticisms offered and published in the issue for January 9. Such *destructive* critics, who are serving by their obstructions no noble cause, will not be easily discouraged from pursuing such a commercial hobby. But it is essential, in the interests of a higher educational and moral standard, to put an end to such a cynic practice, and to direct all efforts to unity, co-operation, mutual respect, and to the beneficial exchange of thought, with the ultimate object of serving a worthy cause, which is not wholly one of food production, unless we consider it a source of nourishment, both to the brain and the body. The economical value of bee culture

is not insignificant, and its educational factor is worthy of respect.

Having at my disposal my own experimental apiary of from five to six colonies, and with my great interest in apiculture, which almost approaches my interest in medical science, and for which I am gradually giving a comparatively large share of time and expense, I make no apology for considering my independent self-study is worth *to myself* more than the knowledge to be had from such bombastic men who have superstitiously talked about bees for so many years. It is my joy, however, to listen to all sorts of honest apiarists, and to endeavour learning from every one of them, and even from crude beginners, as there is no difficulty for a sceptic in learning a lesson from the faulty observations of others, as well as from their correct deductions. My aim in contributing to the Bee Press, as repeatedly mentioned, is principally to create an interest in genuine research, and not in the least to force my own views on bee-keepers, as I could hardly be expected, from the limited materials in my hands, to supply other than some guiding hints, whether from theoretical considerations, literary reviewing, or limited research experiments. Extensive research is obviously the duty of the State, and of the leading bee-keeping organisations if adequately supported by Government grants and voluntary contributions. My literary contributions should be judged solely by their merits or demerits, without any consideration for the personality of the writer, or for the unclaimed prefixes and suffixes which are merely prompted by the generous courtesy of sympathetic writers.

I trust, therefore, that I may be pardoned for my educational interest in bee culture, and that I may be favoured in future with more *constructive* criticisms, similar to those that have appeared lately from various writers in the Bee Press, and I hope that my unorthodox views will be generously tolerated and tested in a practical way by others commanding better facilities, whose reports will, no doubt, be highly instructive, whatever their conclusions may be.—A. Z. Abushady.

Co-Operation or Profiteering?

[9894] No doubt this is the right title for a discussion on the two forms of policy followed by apiarists professing to be serving the interests of bee-keeping by their commercial activities. One section of them are satisfied with a reasonable price comparable with last year's, which was sufficiently above the normal, and are offering goods that may be rightly considered value for money, in view of the present state of the market. The other section are taking advantage of the scarcity of bees, and are *artificially* inflating the prices with all sorts of claims, as if such merits never existed before, and are not shared by the other section. Yet when these claims are verified they generally prove to be the reverse. The former section represents respectable apiarists, who are serving by their co-operation the national object of re-stocking the country with bees, without any loss to themselves, and in fact at a *good* profit. The second section, who are undoubtedly affected with *profiteering disease* (to use Mr. F. L. Wilson's expression in his letter on this subject to the April issue of *Bee Craft*), are performing a great disservice to the craft by "capturing" so many crude enthusiasts, whose later disappointment and the waning of their enthusiasm are bound to be the inevitable reaction.

I have already indicated that a leading co-operative association was selling three-framed nuclei with 1919 Penna queens at 35s. per nucleus. Again, one of the leading apiarists in Great Britain writes to me, in reply to a request on behalf of friends, that he is prepared to supply 100 four-framed nuclei, headed by 1919 home-bred queens, at 30s. each, delivery as early as possible in May. There are other examples that one may readily give of the non-inflated market price which is maintained by honest men, who fully realise that by their straightforward business principles they are equally serving themselves and the public, and not their pockets alone.

I have again previously indicated why an appreciable advance in price should have been instituted by Italian apiarists, and the same reasons equally apply to American apiarists. Yet the prices of American queens quoted by Mr. Claridge, although correct, represent the exception and not the rule. In fact, some apiarists follow the undesirable practice of refusing orders by raising their prices; others of long standing consider that they are doing a service to the trade by maintaining their price list at a certain high level, so as to give others better business opportunities. Whilst there is some wisdom and justice in this latter practice, it invariably ends, however, by defeating its object, and by simply encouraging the profiteers and pretenders, whose number is unfortunately steadily increasing in all branches of the bee trade, and who are even encroaching on bee literature.

As an illustration of the average price for good American queens, I might mention that I have some fine Italian queens on order from Messrs. Dadant and Sons (whose queens are undoubtedly second to

none in quality), to whom I am paying $1.50 per queen, dispatch mid-May.

In conclusion, I am exceedingly sorry to note that, whilst the object of my original letter has received full support from all correspondents, it has unnecessarily led to a fruitless discussion in quite an undesirable manner between two respectable apiarists, and I sincerely hope that the generous and admirable impartiality of the Editors will not permit of the prolongation of such discussions, especially when expressed in words not fit for publication. The valuable space of the JOURNAL is better suited for helpful original contributions on vital subjects. – SPECTATOR.

Hive Roofs.

[9895] If ever a "British Standard Hive" becomes an accomplished fact, those in charge of the final decision will – according to the almost unanimous opinion of British bee-keepers – be on the safe side in adopting the principles of the Cowan and W.B.C. hives. It is undoubtedly the best type of hive we could possibly have in this country. As generally worked with a ten-frame brood nest for ordinary bees, it has proved its worth in the hands of thousands of bee-keepers. Even with the advanced school of modern bee-keepers, who go in for bees that breed into hurricane strength colonies, the system of using two or three brood chambers and "sky-scraping" the supers seems to meet with all their desires. The latter class are in the minority, and I venture to say there are comparatively few localities in this country where the system can be carried on with success.

One part of the hive, which has possibly been discussed before, and which I should like again to draw attention to is *the roof*. I have, during my bee-keeping experiences had occasion to handle W.B.C. hives by most of the best makers of bee appliances. Now my own little idea about them is that the roofs are much too light and too flat, and I think they spoil an otherwise first-class hive.

But, someone will say, "hive roofs in America and other countries are still more flat and lighter if anything, and lightness is a point in their favour."

With this I do not agree. I am a great admirer of our friends across "the pond" in bee matters, as in many other things that matter. But what suits them admirably is not *always* sure to suit us here. When the winter is over, and their season's work begins, they get fairly nice weather over there, and their summers, as a rule, are a continued spell of fine, sunny bee weather. Heavy roofs to them would mean waste of good material, and needless handling of unnecessary weight. Then, again, when the season's work is over, and they make preparations for wintering, a great number of those hives are provided with large outer cases to protect them from the weather, though most of the bee-men in a big way, have provided themselves with a cellar, into which all their stocks are moved safely till the winter is over. If they beat us in summer weather, they also get "the real thing" in winter.

Now what are the conditions over here? We get all sorts of weather mixed up in the best of seasons, and gales and storms often visit us when we least expect them. Advocates of light roofs tell us what an easy matter it is to weight down the roof with a couple of bricks or large stones. Well, to say the least, timber and bricks are a poor combination for a hive roof. The bricks tell a tale in a short time, and show that the timber has not improved by coming into contact with them. And how much better are they than if they used a comparatively heavy roof? In fact, the heavy roof gains point in the matter of time, as it is one operation to remove it and only one to replace it. These people grumble at a few extra pounds in the weight of a roof, whereas the 40lb. shallow super, just on a level with it, is handled by them with delight. No, we want a good heavy, all-the-year-round roof for our British hive, and one—whether span roof or sloping front to back—that is built of timber at least ⅞in. thick, a good slope to throw off all moisture, and with a framing (or lift) sufficiently deep to accommodate a section rack. I have had a few similar roofs in use for years, and find that they need no extra weight nor roping down to keep them in position during the heaviest gales. T. ALEX JONES, Halkyn.

Notices to Correspondents

E. TURNER (London).—*Appearance of brood of unmated queen and laying worker.*—An unmated queen may, when she first commences to lay, deposit her eggs in small scattered patches like those of a laying worker, but later on when she gets into "full swing" they will be deposited as regularly and compactly as those of a mated queen.

H. J. STRIDE (Bournemouth).—*Making increase from box hive, or skep.*—See reply to W. R. J. in B.B.J., February 27, p. 70. If you have a feed hole cut in top of box you could introduce the queen through it with a cage made to hang down between the combs.

H. C. M. (Rusholme).—*Bees soiling alighting board.*—It is probably only the normal cleansing during the flight after being confined to the hive for a time. (2) Yes. Brood rearing appears to be backward generally this spring.

A. S. B. (Hindhead).—Yes.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

WANTED, by the Notts B.K.A., Expert, preferably female, April-August, 1919, to work the re-stocking scheme.—State qualifications and salary required to G. HAYES, 48, Mona Street, Beeston, Notts. p.12

WANTED, strong Stocks, also Fertile Queens, Italian; good price for early delivery; no rubbish required.—BAXENDALE, 1, Kennedy Street, Manchester. o.47

WANTED, bound vols. BRITISH BEE JOURNAL, 1873-74-75, and from 1892 to 1917, with the exception of 1898. Must be in good condition and reasonable price. Deposit.—Box 12, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. p.20

MAY-JUNE DELIVERY.—A limited number of four-frame Nuclei, headed by 1918 Italian Queens, price £3 5s. each, carriage paid.—Box 9, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2 o.19

1918 FERTILE Queen wanted at once. HORN, 80, Wharfedale Gardens, Thornton Heath. p.20

WANTED, large size Honey Ripener, with strainer and tap, in sound condition; also nine Skep Covers, and good sound Veil. WYATT, Bishopswood, Chard. p.21

WANTED, Extractor; good condition.—Particulars to SCOTT, 74, Woodside Park Road, N.12. p.22

PUPILS taken for Bee-keeping. Easy terms. WILLIS & ACOCKS, Little Cornard, Sudbury, Suffolk. p.23

CANNOT accept any more orders. W. CHANNELL, Grove Apiary, Histon, Cambs. p.24

WANTED, strong Stock of Italian Bees, with 1918 Queen; healthy; early delivery.—H. JOHNS, Free Library, Whitchurch, Cardiff. p.25

WANTED, Extractor. State condition, make, and price.—Brawdy Vicarage, Penycwm, Pemb. p.26

ITALIAN HYBRIDS. Two good Stocks for Sale, with quantity Appliances, new; £15 to clear the lot; compulsory sale.—C. TILLEY, 394, Aston Lane, Witton, Birmingham p.27

HEALTHY early Swarms from a Devonshire Apiary, orders in rotation, 6s. per lb.; sent on frames, 1s. 3d. each, in returnable travelling boxes.—MORRIS, Lifton, Devon. p.28

WANTED, at once, 1918 Italian Queen; fertile. State price and date of despatch.—SMITH, Cliffe Ashe, Idridgehay, Derbyshire. p.29

HANDSOME pure Belgian Hare Buck, rich colour, from prize stock, 15s. od.; several grand steel Flemish-Belgian Bucks, all 11 months, 7s to 10s. 6d.—FLOWER, Bee-keeper, Whaddon Farm, Owslebury, Winchester. p.30

LEICESTERSHIRE BEE-KEEPERS' ASSOCIATION.—Wanted, Expert, May-July, to work re-stocking scheme.—State qualifications and salary required to A. BRIERS, 27, Winchester Avenue, Leicester. p.33

FOR SALE, one Colony on seven frames in telescope hive; strong and healthy; £5, or best offer.—FOSTER, Bryn Corach, Conway. p.31

FOR SALE, or exchange for property in England (small holding), Market Garden, Small Fruit and Apiary, 3¾ acres, cottage, greenhouses, barn, bee houses, 18 colonies Italian Bees and equipment, ½ acre raspberries and black currants, etc., 4 years old, fertile soil, early tomato land; a money maker; splendid climate; near London and Toronto, situated in village of 800; low taxes.—Apply, GEO. TUDDENHAM, Lucan, Ontario. p.32

MR. WILLIAM ALLAN, West Knowe Farm, Brodick, Isle of Arran, writes us under date of April 4:—"The 'I.O.W.' disease has cleared this district of bees. I am the only one who managed to save his bees. I used Flavine Candy, and sprayed the stock every three months. Since using Flavine last year I have been free of the disease."—S. H. SMITH, 30, Maid's Causeway, Cambridge. p.35

WANTED, to rent for one year, with option to buy, Cottage and about 4 acres of land suitable for fruit, bees, and poultry; if possible with accommodation for general stores or tea shop. Land must be sandy.—"F.," B.B.J. Office, 23, Bedford Street, W.C.2. p.34

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of **Four Oaks**. Winner of three 1st prizes at three Royal Shows.

WANTED, healthy Stocks of British Bees, strong, on six, eight or ten frames, that have not swarmed; not to be delivered before June 11 or after June 21.—PRYOR, Breachwood Green, Welwyn. p.14

ALBERT N. HOPKINS, Breeder and Importer of best strains of Italian Bees, is now booking orders for his reliable, established four-frame Nuclei, quickly becoming strong colonies; guaranteed healthy; price moderate; particulars on application; 22 years' practical apicultural experience.—Woodland Valley Apiary, Lyminge, Folkestone.

VIRGIN QUEENS, disease resisting, leather coloured, bred from our best Italian stock, booked now; delivery end of May, 5s. 6d.; June onwards, 5s.; safe arrival guaranteed. If injured in introducing will replace at half price on return of dead queen.—APIARY, Buckfast Abbey, Buckfast, Devon.

STRICTLY BUSINESS.—To clear the small available stock of Flavine Candy; 5 lbs., 5s. 1d.; 10 lbs., 9s. 8d.; 20 lbs., 19s. 4d.; post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. p.16

3-FRAME NUCLEI (young queens), excellent brood-raising strain, 45s., carriage paid. Orders booked.—G. MOORE, 31, Monmouth Road, Dorchester. p.36

RESTOCKING.

Queen Rearing Made Easy.

Complete Outfit, 2 Frames, 18 Waxed Cell Cups, 12 Cages, Jelly Spoon, Transferring Needle, simple instructions by an expert, 15s., postage 6d.

Kat-a-log of all up-to-date Appliances free.

MEADOWS, SYSTON, LEICESTER.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur."

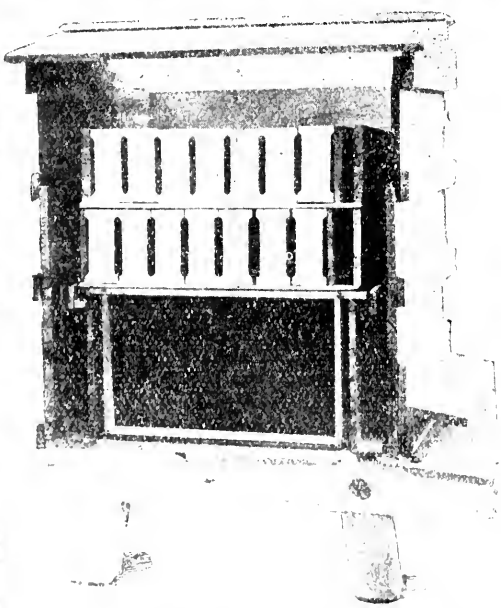
Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

NEARLY 50 YEARS ESTABLISHED.

KENT BEE HIVE WORKS.



The oldest establishment in the Kingdom wholly devoted to Bee Appliance Manufacture. W.B.C. Hive, as sketch (outside square cases). Brood Box (11 frame capacity), 2 supers (room for 3).

Painted, complete, as above £2 14 0

Fitted wired foundation ready for working... ... £3 16 0

Full List of everything connected with Bee-keeping.

S. J. BALDWIN,

The Apiary, Bromley, Kent.

Seasonable Hints.

As soon as the weather becomes more settled stimulative feeding with syrup may be commenced instead of giving the bees candy. The last few weeks have not been favourable for brood raising, and in the majority of hives there is not much brood for the time of year. It will, therefore, pay to stimulate brood rearing. Crowd the bees up with the division board on to what combs they can cover, to keep them warm as possible, adding the other combs one by one as more room is needed. Keep plenty of warm wraps on, and give warm syrup, using a bottle-feeder with only two or three holes. Honey thinned with water and boiled for a few minutes may be used instead of sugar. A lever-lid tin, such as a golden syrup tin, makes an excellent cheap feeder. Just punch the number of holes required in the lid with a fine wire nail, fill the tin with syrup, put on the lid, and invert the tin over the feed-hole. If the combs are well stocked with stores, to give more food is a disadvantage. The object to work for now is bees, and if the cells are full of honey or syrup the queen cannot utilise them for ovipositing. When it is warm enough to open the hives, bruise a little of the cappings about twice a week. If this is done round the edge of the patch of brood, or on the comb next to the brood, the bees will clear out the food and polish up the cells, so that the queen can extend the brood nest. Do not attempt to hurry matters by "spreading" the brood. If done at all, this operation should only be undertaken by experienced bee-keepers, and then in nine cases out of ten it is better and safer to leave the extension of the brood nest to the bees. If the bee-keeper will see that there is no lack of stores the bees will manage the rest.

Spring-cleaning may be carried out on sunny days when there is no cold wind. The best method is to transfer the first stock into a clean hive, or if a spare hive is not available use a "make-shift" hive. The one from which the bees have been evicted may now be cleaned and disinfected and the next stock put in it, and so on till all the hives are cleaned. Put some naphthaline and apicure in each hive, renewing as it evaporates. Prevention of disease is better than cure, and no better plan can be followed than to keep the hives clean and always supplied with disinfectant. Medicate all food, and provide a constant supply of clean water.

Weak or queenless stocks should be united.

A Dorset Yarn.

Westerly winds and warm days have made fruit trees burst their buds, Jargonelle pears are in bloom, as are some Louise Bonno of Jersey, Curlew plums are white, and many gooseberries are now open; bees are with us all day, making merry over the bushes, singing their glad songs of "peace and plenty," music so sweet to the fruit grower. How they tell each other of the harvest of nectar that only waits for the collector, for where a solitary bee is seen at one time there are many within an hour, but the bumble bees are first on them, as they are last at night when almost dark. Last night, the 12th, they were on the gooseberry bushes as we finished, because it was too dark to see to work any more, but the deep note of the bumble bee was with us up till the end. We are extending our acreage of violets again this year, our fruit quarters are in long lines with several lines of violets between them, and where it is gooseberries the bees are like the poor, always with us. One planter last year said he was afraid of bees, so many were with him as he worked.

One visitor to the farm only yesterday, tells me he has taken a small holding of 6 acres to work for profit, 2 acres of it is within walls; he was a head gardener where the owner had a handle to his name, had had a delightful period of service, but the long lines of fruit and flowers, as seen in the hands of progressive growers, has made him eager to "go and do likewise," because, after all, there is so much sameness in the routine of service with the wealthy, year after year, a big strong man only directing others in what is to be done. When on the land for one's own profit, the fever of production is ever burning. Those who have made a life study of plant life have the best place on the land; they know what each unit of the vegetable kingdom requires, so are the best fitted to produce the best out of the land, and if they are like this one, an enthusiastic bee-keeper, then the pleasure of production is doubly great.

So many are tired of office life, the lure of the land and its fruits is very much to the front just now; one writer only last week wrote he would like to come into partnership with us, or take another farm to extend the business—even to put several thousand pounds to the work (things would hum, then, in Dorset).

Man is finding out it is "life that counts, not wealth."

Mr. Smith, of Cambridge, has sent me his publication on bees, on Flavine treatment, and what is very interesting, his idea of healthy hives, well ventilated, well off the ground, with a feeding arrangement beneath the floor board, which can be used at the will of the operator by a drawer arrangement. I thought the idea a good one, it makes one feel that living so much away from other bee-keepers one does not know half what one ought to, before one presumes to write on bees. One is grateful for the information that these publications give. He is not a maker of them, but it is good of him to send it me.

One visitor offered £40 for 10 stocks of bees last week, they were advertised in the BRITISH BEE JOURNAL, but his offer was not accepted. A writer last week asked for two stocks of bees and two pigs. We had to tell him that we could not sell bees, we never sell them, they are too valuable on the farm, and when one loses them through disease it would not be fair to sell any until disease was entirely eradicated. I put him on to some bees that were in the JOURNAL some time back but were not all sold. We have some of them at our farm, and a fine strong active lot they are.

Our bees are bringing in pollen of many shades of colour, from a cloudy green to bright red, such a lot of it, too, and when they hurry in with so many colours, they look very pretty. They have the feverish haste that all bee-keepers like to see, as if they were in a hurry to try and make up for the lot of cold bad times; all is haste, no strikers, no slackers; all seem to be old bees, but there must be many thousands of young in some of the hives, because they are now on the outside of each outer-comb, and in such numbers that one feels that the sections must soon go on—how soon the seasons come and go—another season of sections, and all others not yet used up.—J. J. KETTLE.

A Bee-Keeper's Libel Action.

In the High Court of Justice, Tuesday, April 1, 1919, before Mr. Justice Avory and a Common Jury, "Smith v. British Food Culture Association and Others." This was an action brought by Mr. S. H. Smith, of 30, Maid's Causeway, in respect of an article that appeared in *Co-operative Food Culture*, of June last. The article complained of was as follows:—

"Speaking of disease in bees, I have just heard the story of an 'Expert' in East Anglia, with some Yankee experience, and much more than even Yankee swank, lecturing to an audience, when he offered to purchase all the diseased swarms, or stocks people could send him, making the assertion that he could cure the lot. Now had he been lecturing to a company of practical and expert bee-keepers, they would have understood such balderdash, and appraised it at its proper value, but, unfortunately, he was 'holding forth' to people quite ignorant of such things, but anxious to begin bee-keeping, both in their own and their country's interest, and it is mere commonplace charity to say in the interest of such hearers the man ought surely to be stopped, and if we have no law whereby this can be accomplished, then one should be made at once. Such a man is a pest to society, and a nuisance to the country. We have taken steps to report the matter to the Board of Agriculture, and hope some means will be found of ridding the people of such a nuisance. I wonder how it is he is not in the Army, being of military age. This might cure him of some of his swagger."

On the case being called, Mr. Inskip counsel for the plaintiff, addressed the Court:—"My Lord, my learned friend, Mr. Lewis Thomas, and I have been able to come to terms in this matter. My friend has agreed to pay the costs so as to give me a complete indemnity against any expense to which I have been put. My friend is willing to make a statement in satisfaction of what we thought a most damaging statement with regard to his interest in the culture of bees, and his personal character and reputation. My friend, making a satisfactory statement and explanation and withdrawal of any attack which may have been made upon my client, my client is satisfied, as we shall be completely indemnified."

Mr. Lewis Thomas: "My learned friend has correctly stated to your Lordship the terms which have been agreed between us. I appear for the secretary and the Association who are interested in the production of food; and when the shortage of food came along they started in the early part of 1915 by small coteries, in among other things the industry of bees, because it was thought that owing to the shortage of sugar the promotion of bee-keeping should be encouraged. In the month of June, 1918, in the organ of the Society an article appeared. The plaintiff's name was not mentioned in the article, and no statement in the article was ever meant, and is not now, to refer to the plaintiff, and in the defence to this action we so stated: that was the defence that the words did not apply to the plaintiff at all. Of course, the plaintiff feels that he is bound to come to the Court to have that put right as publicly as it was put in the Journal of the Association.

On behalf of the defendants I say here and now that the words were never intended to apply to the plaintiff, and no reflection was ever intended to be made upon him. The plaintiff was not in the writer's mind, the editor's mind, or the Association's mind, when the article was written; and, therefore, it is only right that this statement should be made publicly, that the words were never intended to apply to him and that they did not apply to him; and if anyone has thought they ever applied to him we at once make this statement that no reflection was meant upon the plaintiff, upon his character, or upon his ability in any way. We have not intended to do it, and we say we do not do it now. We can only express our regret if it has been thought that he is the person indicated by the article in any way, and, as my learned friend says, we have agreed to pay the costs, so that he should not be put to any expense in coming here and getting this statement publicly made. With your Lordship's permission the record will be withdrawn upon the terms agreed between us."

Mr. Mathew: "I appear for the third defendants who are the printers of the libel. I desire to associate myself with what my learned friend, Mr. Lewis Thomas, has said. The printers, like the other defendants, had no notion that the plaintiff was the gentleman referred to in this article."

Mr. Inskip: "There will be a Judge's Order."

Mr. Justice Avory: "Very well. The record will be withdrawn upon the terms agreed between the parties."

The Eradication of Foul Brood.

At last a Continental scientist thinks that the idea of applying *artificial immunisation* in bee diseases is worth considering. My first suggestion related to the main infectious type, so far recognised, of "Isle of Wight" disease (*syn: Nosema disease*), and to allied disorders, in which no causative organism has been definitely met with, but which exhibit suspicious bacteria which are not unlikely to play a harmful *rôle* under certain conditions. The suggestion has previously met with ridicule from the anti-vaccination partisans, and with apathy from those not interested in advancing scientific research.

Considering that a satisfactory treatment of foul brood is in existence, and is being continuously improved upon, also because of the repeatedly demonstrated fact that the strict observation of cleanliness in the apiary, and the championship of none but selected healthy strains of bees, have done much to minimise and limit the incidence of foul brood, I thought that in discussing preventive measures one is justified to be content with laying emphasis on these factors, the question of *vaccination* hardly finding any sphere of application in comparison with the case of "Isle of Wight" disease, for which no present remedy exists. It is doubtful that the excessive mortalities in one district are due to "Isle of Wight" disease alone, and in another to foul brood; and it will suffice to remember in this connection that, according to the fashions of the time, such fantastic explanations existed in the past, exist at present, and will exist in future. I have met with organisms of both American and European foul brood and allied spore-bearers in samples of diseased adult bees in which *Nosema apis* was not detected, and I have no doubt that, with thorough investigation, the present notion of the incidence, causation, and grouping of bee diseases will be appreciably modified.

We need not specify *entero-vaccination*, as there is obviously but one route for the administration of vaccine to the bees.

The underlying idea of *vaccine therapy* is to stimulate the natural defensive powers of the vaccinated subject against harmful organisms by the administration of judicious doses of their specially-prepared non-infective toxins. But should infection have previously occurred, and is accompanied by the excessive generation of toxins from the infecting organisms, the addition of further toxins in the form of a *vaccine* is likely to do more harm than good, and to be a failure. Sir Almroth E. Wright directs searching light to this question of therapeutic immunisation in his inspiring lecture* delivered before the Royal Society of Medicine on February 25th, 1919.

"How to Get Rid of Foul Brood" is rather a reckless title, considering that the writer of the article on this subject is outlining a scheme for treating the disease, and not for diminishing its incidence amongst healthy colonies. Why not experiment with the *artificial immunisation of queens against foul brood*, in spite of the general conception that such an immunisation is not hereditary? Should it be possible to prove that such immuni-

* *The Lancet*, March 29, 1919, p. 489.

sation is beneficial, in so far as protecting the offspring against infection, then we may safely talk about the possible eradication of foul brood. *Serum therapy* is likely to be more promising in treating and protecting the *early* infected and the "contact" larvæ than *vaccine therapy*, and is more worthy, as a subject for research, of serious attention in bee infections. It saves the larvæ the possible risks resulting from the administration of additional toxins when their natural resistance may not be capable of coping with the task of intensive defence, in spite of the stimuli supplied, and presents to them (in place of the additional toxins) *anti-toxins* capable of neutralising the poisons present, and of giving the larvæ a chance to fight the infection.

It is not correct to say that the cultivation of *B. larvæ* has remained practically an impossibility, unless ordinary laboratory media are being referred to. That the growth of this organism, even on specially prepared media, is not copious is a different matter. Your readers will be interested in examining the elaborate researches of McCray on the *spore-forming bacteria of the apiary**, from which the non-critical observer may conclude that the infective theory does not stand at present on solid ground. In my humble opinion, these researches do not lead to this assumption, but rather suggest that infection is not dependent on the presence of the pathogenic organisms alone, and seems to be supported by other secondary factors (such as bad food, which is capable of lowering the vitality of the bees, for instance). It will be noted that one of the effective methods of relieving a colony from foul brood is to utilise the infected food for wax-building. By this method the infection cannot possibly disappear in the absence of *antiseptic therapy*, but the brand of food in the hive at that time is got rid of. *The influence of the diet* in contributing to the causation of "Isle of Wight" disease should equally receive careful study. In any case, it is hardly contributing to the eradication of foul brood to leave the nurseries of pathogenic micro-organisms unmolested, and to put faith in *vaccine therapy* alone.

Mr. Prudhomme's contribution must be appreciated. On the other hand, bee culture does not benefit by too optimistic statements that create unjustified hopes, to be followed by a deplorable reaction. There is a difference between recommending an idea for research and offering it as an established certainty.

* *Journal of Agricultural Research*, March 12, 1917, p. 599.

"The Diagnosis of Bee Diseases by Laboratory Methods" (United States Department of Agriculture, Bulletin No. 671—June 21, 1918).

Experiments with apparently Dead and Dying Bees.

Mr. F. B. Charlton is following a wise principle by avoiding, so far as possible, taking anything for granted. Having taken, however, the trouble to conduct experiments with apparently dead and dying bees, I am sorry to note that he has not taken sufficient precautions in classifying his materials, nor has he made correct conclusions. The general description of "bees from healthy stocks" is not sufficient to guide one to any definite conclusions regarding his experiments. One would have liked to know approximately how many of these "chilled" bees were obviously old and debilitated, and what proportion represented comparatively young autumn bees, so far as may be judged from their appearance. It is evident that Science does not yet know of any means for the practical prolongation of life, and it is hardly worth trying to save the life of old bees which are in a dying condition. Such bees cannot be primarily classified as "chilled." Unfortunately, it is a fact that they form a good proportion of no few healthy colonies, which rapidly dwindle or perish in winter, and whose loss is generally described as being primarily due to "Isle of Wight" disease. It does not follow, therefore, that apparently "chilled" bees from healthy colonies are fit to live or are themselves healthy. Again, one would have liked to know the approximate period of chilling of various batches of bees in relation to the results obtained by the use of *artificial heat* for their revival and invigoration. I have not the slightest doubt, for instance, that healthy young bees which have become chilled for some hours at a temperature of about 45-50 deg. Fahr. are quite capable of being re-invigorated by *artificial heat* and of flying back to their hives in most cases, and sometimes in spite of unfavourable weather. I have satisfied myself on this point on many occasions. On the other hand, old dying bees, or young bees that have suffered from prolonged chilling and partial starvation, will be found either dead or too weak to benefit by stimulation. Freezing or sub-freezing temperature is sure to kill vitality in any chilled bees exposed to it. There is no advantage, therefore, in loosely using the expression "bees can put up with a lot of cold," as habitually mentioned by several correspondents, since the accuracy of such a statement depends on its meaning. Accuracy in the results of such experiments will not be secured by "frequent" visits to the hives, but by dated and timed visits, so as to ensure correct classification of the experimental samples, according to the period of chilling, age, etc. As an illustration, the re-

moval of "chilled" bees from the floor of the hive "after an interval of about three weeks" does not supply one with any guiding light regarding the nature of the pint or more of the so-called "chilled" bees removed. How many of these were really chilled, and how many of them were possibly old bees that died a natural death, we are not told. Microscopic aid apparently has never been sought, as the survival of the colony, in spite of apparently appreciable dwindling, seems to have been considered a sure sign of health.

A small batch of bees, and in fact a respectable colony, need no less than a temperature of about 60 deg. F. *for the area of their gathering* (or the clustering area) to keep them properly conscious and fit. Mr. Charlton need not be surprised, therefore, for having found that his unclassified "chilled" bees did not benefit from an undefined and a non-controlled source of heat. Even the choicest young healthy bees in a detached batch of 100 or 150 will never be able to live long unless kept *together* in the presence of food at a *regular* favourable temperature, and not by mere exposure to variable temperatures accompanied by repeated disturbing manipulations. On various occasions I have dotted with white paint the backs of chilled but apparently young healthy bees that happened to revive on being warmed up, and to return to their hives in the majority of cases, and in favourable weather. Rarely did I meet with any of these re-chilled on the floorboard.

Regarding *the influence of dampness and cold on the health of the bees*, this must be viewed from at least two aspects—(1) the *direct* harmful effect on their vitality; and there is no novelty in this suggestion. But "if compelled to choose between two evils I would rather expose the bees to a little dampness than to prolonged frosty weather. *Moderate, regular, dry cold* of about 42-45 deg. F., on the other hand, is apparently no evil. *Artificial heat* rather than *artificial cold* is what is generally necessary in cold countries for the maintenance of this temperature."* (2) The *indirect* harmful effect of excessive cold and dampness, represented by inducing the bees to overfeed, just as much as excessive warmth would induce them to behave likewise. The only possible result from such a condition, in the absence of sufficient opportunities for cleansing flights, would be the development of *metabolic poisoning* from retained waste products, although the result is bound to vary in degree with various strains of bees. As to why should bees overfeed in (a) excessive cold, (b) appreciable dampness, and (c) in excessive warmth, the explanation in each of these cases is—(a) the need for the greater generation of protective heat from greater food consumption; (b) in mild weather I have seen bees trying to overcome dampness by fanning within the hive itself (as well as at the entrance in some cases): this practice is also noticeable when the sprayer, in place of the smoker, is used for subduing them during the honey season; the energy needed for this task at once requires additional food consumption: additional generation of heat on the part of the bees for facilitating the evaporation of moisture again means additional food consumption; (c) excessive warmth at once stimulates the bees into activity, and this in its turn demands additional food consumption. Excessive food consumption, in the absence of adequate opportunities for cleansing flights, forms the signal for the establishment of the vicious circle of *auto-intoxication*. Hence it is highly desirable for successful wintering to keep the bees in a favourable atmosphere of a temperature which neither excites the bees on the one hand, nor contributes to their excessive hibernation on the other, but which is sufficient to guarantee a *minimum* of feeding compatible with safe and quiet wintering. Those who infer or advise a different practice in making use of *artificial heat* for successful wintering are mistaken in their inference or advice, and I am sorry to note in this connection that I have been repeatedly made the victim of hasty readers and writers.

As for the best course for *overcoming dampness in the hive*, the subject is so complicated that there is no advantage in treating it here with a few passing remarks. I shall deal with it at some length either in the JOURNAL or elsewhere on another opportunity.

* *Bee Craft*, April, 1919, p. 6.

British Bee-Keepers' Association.

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 25, May 2, 9, 16, 23, 30, at 6.30 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to

W. Herrod-Hempsall,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

A simple "chat" on bees will be given free, at 3.30 each afternoon before the lectures.

Barnet and District Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of the above re-started association took place on Friday, March 14, 1919, in the Church House, Wood Street, Barnet. It was preceded by a social gathering, at which over thirty attended. Refreshments were served from 7.30 under the supervision of Mrs. Snell, Mrs. Norris Toms, and Miss Elsie Toms. The room was prettily decorated with flowers and flags. During the evening songs were sung by Miss E. Toms and a duet by Mr. H. Seymour Roberts and Miss Roberts. Mr. Roberts also gave a recitation. At 8.30 the secretary, Mr. Norris S. Toms, gave a short and interesting talk on American methods of bee-keeping, illustrated with a specially prepared set of lantern slides.

Following this exhibition the general meeting was held. In the enforced absence of the president, the Rev. W. Manning, M.A., the chair was taken by Mr. H. J. Humphries. Letters of regret for absence were read from Mr. Manning and others. The minutes of the last general meeting were read and confirmed, and the treasurer, Mr. A. Snell, submitted the balance sheet, which showed a satisfactory balance in hand of £2 16s., and was approved.

Mr. A. Van Weede stated that co-operative buying had resulted in a cash balance of 14s. 6d. The committee had purchased and sold several hives, besides other appliances. He had been able to purchase out of profits a honey ripener and strainer for the use of members, and also bees for the apiary.—Mr. H. J. Humphries stated that he had purchased and distributed at a profit about 100lbs. of bee-candy.

The annual report was read by the secretary. It showed that sixty-two members had joined during last year. A large majority of them had received expert help and advice. During the season five lectures had been given—one in South Mims, three in Barnet and one in New Barnet. The thanks of the association were due to the Hertfordshire County Council Education Department for providing for three of the lectures. In addition to the lectures, two demonstrations with live bees had been held in the association's apiary. The attendances at all the lectures averaged thirty-five, which was considered highly satisfactory. By the kind permission of Mr. E. H. Taylor, of Welwyn, a party of the members had visited his apiary and spent a very enjoyable afternoon. In connection with the war allotment holders' vegetable show an exhibition of bee-keeping appliances and honey was held, which proved of great interest. In response to an invitation from the Mid and West Herts Beekeepers' Association, many of the members visited Hatfield House and grounds, where they attended a meeting and demonstration. During the season an apiary had been started in Leecroft Road, thanks to the kindness of Miss Stone in lending the ground. It was hoped during this season to supply members with bees from this apiary. A honey extractor had kindly been bought by Mr. H. J. Humphries for the use of members, to become the property of the association when sufficient money had been received from its hire. Members' names had been registered with the Food Department, whereby they were now able to obtain 8lb. of sugar per colony for spring feeding. The committee, in closing their report, desired to say that, in spite of the difficulties occasioned by war conditions, they considered that the past year had been very satisfactory, and thanked all members for their co-operation. They looked forward to great success now that peace had come. The result of the election of officers was as follows: President, the Rev. W. Manning; secretary, Mr. Norris S. Toms; assistant secretary, Mr. Chas. Bowell; treasurer, Mr. A. Snell; committee, Mrs. Snell, Messrs. M. Doyle, F. Ellis, H. J. Humphries, W. D. Ridley, B. Webb, and A. Wilson.—*Communicated.*

The Cheshire Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of the above association was held at the Holborn Café, Chester, on Saturday, March 15. In the absence of Canon T. J. Evans, Mr. E. Percy Hinde occupied the chair. There was a good attendance of members, and the secretary read a large number of letters from others unable to attend.

The Duke of Westminster was re-elected president. The Marquis of Crewe, Lord Sheffield, Miss L. Brooks, Major H. Barnston, M.P., Major Geo. H. Garratt, and A. B. Earle, Esq., were re-elected vice-presidents. To these were added J. W. P. Laird, Esq., T. N. C. Nevill, Esq., and Dr. Paul. Mr. E. Percy Hinde was re-elected hon. treasurer, and Mr. E. W. Franklin hon. secretary. Mr. John Tonge was re-elected hon. auditor, with thanks for his past services. Major G. H. Garratt and Mr. S. N. Grant Bailey were re-elected delegates to the B.B.K.A.

The secretary read a report of the work done during the past year, stating that this had been restricted owing to the war, and the prevalence of "Isle of Wight"

disease. Over a hundred members had paid their subscriptions, and the financial position of the association was in a very healthy condition. In conjunction with the Horticultural Sub-Committee, a re-stocking scheme was in hand for the creating of a large number of nuclei. Application forms were now ready for these, and the nuclei could be obtained at £2 5s. each. These were being bred from bees which has shown a large degree of immunity to disease, and the Italian strain would predominate. Upwards of a hundred applications had already been received. A vote of thanks to officers for their past services brought the proceedings to a close.—*Communicated.*

Sussex Bee-Keepers' Association.

ANNUAL MEETING.

In the unavoidable absence of Mr. Charles Rowland, J.P., the Chairman of the Urban District Council, Mr. E. E. Lawrence, J.P., presided at the Council Chamber, of the Town Hall on Wednesday afternoon, April 9, at the annual meeting of the Sussex Bee-keepers' Association. He read a letter from Mr. Rowland, who had to attend an arbitration case at the Law Courts, and who sent his best wishes for a successful meeting.

THE ANNUAL REPORT.

The eleventh annual report and balance-sheet, described as "a record of successful development of the Association's work," showed that 74 new members had been added during the year. The total membership now stood at 200, against 133 at the commencement of the year, and there was a substantial balance remaining at the end of the year's work. The number of persons visited in the spring tour was 155. Of the 588 stocks inspected, 564 were in modern hives and 24 in skeps, 54 had died from starvation, 11 dead or affected with "Isle of Wight" disease, while only one was found affected with foul brood. The general condition of the bees was highly satisfactory and gave promise of an excellent honey harvest. This, however, was not generally realised owing to the wet and unfavourable July. Later reports show that in some parts an excellent quantity and quality of honey was secured. Where it was possible to obtain information during the tour respecting members' success for the previous year, the returns showed that 68 members secured 12,394 lbs. of super honey between them.

In moving the adoption of the report and balance-sheet, the chairman heartily wecomed the Association to Horsham, which was one of the oldest towns in Sussex. Certainly, he said, the Bee-keepers' Association was one that should be encouraged, and would grow to a very great extent. The need for the further production of honey in this country was evident from the fact that two and three-quarter million pounds were spent last year on imported honey. It could easily be produced here. The work of the Association was really a national work and should call for the patriotic effort of every man and woman who had the time and attention to devote to it. He urged that more ladies who had the leisure should be encouraged to go in for bee-keeping, and try to make it a profitable industry. There was no reason why we should not be able to produce all the honey we required in this country.

The Rev. A. C. Atkins seconded, and the proposition was carried.

ELECTION OF OFFICERS.

A vote of thanks was accorded to the retiring officers on the proposition of Mr. H. W. Anderson (Uckfield).

On the proposition of Mr. B. J. Burtenshaw (Cuckfield), seconded by Miss A. Thomas (Lewes), the officers for the ensuing year were elected as follows:—President, His Grace the Duke of Devonshire; vice-presidents, Dr. G. Murray Levick, R.N. (Uckfield), Rev. D. L. Secretan (Balcombe), Sir Stuart M. Samuel, Bart. (Nutley), Col. J. Templer (Shortgate), Miss M. Savill (Lindfield), General Sir John Nixon (Battle), and Sir Walter Egerton (Tunbridge Wells). Hon. Secretary and expert, Mr. F. Kenward (Lewes); hon. auditor, Mr. W. Hill Hunter (Brighton); representative to B.B.K.A., Rev. A. C. Atkins (Haywards Heath). Committee: Miss G. Savage (Brighton), Miss M. Allison (Horsted Keynes), Mrs. Morris, Rev. A. C. Atkins, Mr. B. J. Burtenshaw (Cuckfield), Mr. W. T. Cowell (Southwick), Mr. T. Godfrey (Seaford), Mr. H. W. Anderson (Uckfield), Mrs. Bissett (Broadwater) and Mr. W. M. Pelling (Southwick), Mrs. Aitkens (Horsted Keynes).

On the proposition of Mr. W. T. Cowell rule 4, relating to subscriptions, was altered from "bona fide cottagers, 3s." to 4s. 6d.

Under the heading of "other business" the meeting briefly discussed the re-stocking of bees, and the likelihood of the Food Production Department being able to get a supply of Italian queens. In this connection, a reply from a well-known firm, in answer to a letter from one of the members, was read as follows.—

"In reply to your letter, we are not able to make any promise with regard to Italian queens

"The Food Production Department is buying a large number from Italian breeders for the re-stocking scheme, and

we do not think there will be any surplus for dealers."

In the discussion which followed, it was pointed out that serious loss might be experienced, through the inability to obtain queens. The secretary was therefore requested to communicate with the Food Production Department and to ascertain, if it will be possible for members of the Association to obtain Italian queens through the Food Production Department.

A vote of thanks was then accorded Mr. Lawrence, who had to leave to fill a prior engagement.

The Rev. A. C. Atkins then occupied the chair, expressed regret at the absence of Mr. W. Herrod-Hempsall, who had been announced to lecture. The Rev. G. D. Cooper had, however, very kindly undertaken to give them a chat connected with "Method in Swarm Prevention."

The "chat" proved to be very interesting, and by means of model hives, demonstrated his method of swarm preventing, and securing young queens to head the stocks.

A hearty vote of thanks was accorded Mr. Cooper for his interesting talk.—*Communicated.*

Leicestershire and Rutland Bee-Keepers' Association.

ANNUAL MEETING.

The annual general meeting of the above Association was held at the Vaughan Working Men's College, Leicester, on Saturday, March 15, and was presided over by Mr. W. W. Falkner. Among others present were:—Messrs. Meadows, Bedingfield, Tallent, Dunn, Riley, Hunt, Moss, and H. Clark, and Council members from the Nottinghamshire Association were also present.

The annual report and balance-sheet were adopted, the latter showing a balance in hand of £12 0s. 4d., which was considered highly satisfactory.

It was stated that 69 new members had joined the Association during the year, and, allowing for losses, there is a net gain of 50 on the year's working, the total on the books being 245.

The following were the officers re-elected:—President, Lady Levy; hon. treasurer, Mr. H. M. Riley (Leicester); hon. auditor, Mr. W. K. Bedingfield (Lutterworth). Mr. W. G. Dunn was elected chairman for the ensuing year, and Mr. H. Clark vice-chairman; Messrs. Riley and Moss were appointed representatives on B.B.K.A. Council. Mr. A. Briers (Leicester) was elected to fill the place of Mr. J. Waterfield, who relinquished the honorary secretaryship after 24 years' service. As a mark of appreciation of his services Mr. Bedingfield, on behalf of the members, presented Mr. Waterfield with an inlaid mahogany timepiece, suitably engraved, and Mrs. Waterfield was the recipient of a silver-backed brush and mirror. Mr. Waterfield suitably replied, adding that it was not an easy matter for him to relinquish his task, but he thought the reins had been taken up by capable hands, and he did not fear to ride alongside the new driver.

After some discussion, it was decided that, pending the revision of the rules by the Executive Council, for submission to the next annual meeting, the proposed increase of the subscription from 2s. 6d to 5s. be voluntary.

The company then adjourned to tea, and afterwards listened to a very interesting lecture (illustrated by lantern slides) on "The Anatomy of the Honey Bee," given by Mr. W. K. Bedingfield. Mr. E. E. Lowe, B.Sc., Curator of Leicester Museum, who is devoting much time in experimenting into the cause of the "Isle of Wight" disease, gave a brief address, in which he explained his recent investigations concerning this dreadful disease. Mr. W. P. Meadows, of Syston, next followed with a half-hour talk, explaining appliances necessary for huge stocks, and how to be ready for the honey harvest. The lecturers were heartily thanked for their addresses.

A. BRIERS, Hon. Sec.

Queen Rearing in Italy.

[9896] I have been quite interested in reading the polemics on "Co-operation or Profiteering" in the last numbers of BRITISH BEE JOURNAL. Though my name has often appeared in the polemics, I did not intend to enter into the discussion, as I do not think it prudent, nor wise, to speak or write about the particular conditions of bee-keeping in a far-distant country.

Mr. Sharp, in his correspondence (9879), is not of that opinion, as he says plainly that "Hives pre-war 16s., now £7 (in Italy), is too ridiculous to criticise." That brings me to reply that "Mr. Sharpe's pretension to know, being in England, the price of a colony in Italy, is too ridiculous to criticise." I leave to the readers of BRITISH BEE JOURNAL to judge which of the two assertions is more ridiculous. In

Italy it is very difficult to find for sale colonies in regular hives with movable frames. We generally buy bees in rough boxes from countrymen. In 1914 I bought several of those hives at the rate of 0.70 francs (7d.) per kilogram net (bees and combs). This year, though paying them at the rate of 5 francs (4s.) per kilogram net, I could not find as many as I wanted. That is not at all astonishing if we consider that honey in 1914 could be easily had in Italy for 0.70 francs (7d.) per kilogram, whereas in the autumn 1918 it has been paid 10 francs (8s.) per kilogram, and over; that is to say, *fourteen times* the pre-war price. (1 lb. is equal to 0.453 kilogram.)

I have quoted our market prices, *well known in all Italy;* so I think Mr. Sharp will be satisfied.

I wish to note that in 1915 and 1916 I maintained the pre-war prices for queens. In 1917, though the prices for honey and bees were higher, I maintained the pre-war prices for queens, and only raised a little the prices for queens in lots of 4, 6 and 10. In April, 1918, the price of honey was six times the pre-war price, and the price of bees very dear. Consequently I sold queens from 8s. in May, to 5s. in September. In October, 1918, when I stored my comb honey, and my extracted honey for rearing queens in 1919, I could sell it fourteen times the pre-war price. The price of bees was also most dear, as said above. I fixed, in consequence, my prices from 10s. in May, to 9s. in September.

Let me say plainly that these prices are *too low*, and that I have made a bad bargain. Such is the opinion of the Italian queen breeders who wished to know my prices.

Besides the heavy expenses in queen rearing, we must consider also the profit in the production of honey. I have now ten out apiaries. Is my time precious? Would the bees of my queen-rearing yards gather honey if employed in the honey production?

It must be considered also that, before the war, I reared nearly 6,000 queens a year. If I could rear such a number this year I would willingly sell my queens at a lower price.

How is it that I cannot rear 6,000 queens this year? *Principally* because I could not obtain a single pound of sugar.

E. PENNA.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of March, 1919, was £200,781.—From a return furnished by the Statistical Office, H.M. Customs.

Weather Report.

WESTBOURNE, March, 1919.

Rainfall, 5·57 in.
Heaviest fall, 1·14 in. on 19th.
Rain fell on 21 days.
Above average, 3·25in.
Maximum temperature, 53 on 2nd and 11th.
Minimum temperature, 26 on 30th.
Minimum on grass, 21 on 31st.
Frosty nights, 10.
Mean maximum, 46·2.
Mean minimum, 35·4.
Mean temperature, 40·8.
Below average, 0·6
Maximum barometer, 30·599 on 19th.
Minimum barometer, 29·317 on 20th.

L. B. BIRKETT.

Notices to Correspondents

MISS G. A. FINNEY (Beccles).—*Removing mouldy pollen from combs.*—The comb may be kept in a dry, warm place for a few days. As the pellets of pollen dry they shrink, and most of them may be shaken out of the cells. Or soak the combs in water for several days, then wash out with a garden syringe. If all the pollen is not washed out allow to soak another day or two, and syringe again. You may give them to the bees as they are, but it will give them a lot of work to remove the pollen.

A "promising colony" would have five or six seams of bees. Your colonies are both good for this season.

D. ANDREWS (Bexley Heath).—*Disinfecting hive.*—It is quite possible to do this satisfactorily. The best method is to scorch the inside with a painter's blow lamp. As an extra precaution, it may afterwards be washed out with disinfectant and water. The outside of the hive should be washed down with disinfectant and water. If you cannot get the painter's lamp, apply a strong solution of disinfectant with a brush. One part disinfectant to two of water. Expose the hive to the air afterwards until it is dry and the smell has disappeared. Use "Bacterol," "Izal," or "Yadil."

D. CLARK (Leicester).—Your letter forwarded on to "Spectator."

F. J. KERRALL (Coventry).—For recipe for soft candy see page 102 in our issue of March 20.

E. MOSES (Hull).—We are sorry we cannot trace the recipe.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

THREE 1918 Queens, price 7s. each.—51, Lower Mortlake Road, Richmond, Surrey. p.37

THREE Queen Excluders, 5s.; two Non-swarming Hives, 30s. each; four Double-walled Hives, 21s. each; Cottage, with one acre, £310.—CRACKNELL, Bells Lane, Hoo, Kent. p.38

LADY requires experience on Bee Farm; give services in return for board; free at once.—Box 13, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. p.39

FOR SALE, 10 W.B.C. joiner-made Bee Hives, nearly new; guaranteed free from disease. What offers?—G. H. STOKES, Heddon Dairies, Wylam-on-Tyne, Northumberland. p.40

BEESWAX for sale; cwt. of real, fine quality.—Offers to LITMAN, Castle Cary. p.41

WANTED, position as Lecturer, Demonstrator, Expert, or Manager of bee farm; 15 years' practical experience as bee-keeper, exhibitor, judge and expert.—Box 14, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. p.42

FOR SALE, about one gross of Light Yorkshire Honey, in 1-lb. jars, 36s. per dozen jars.—EDLINGTON, Newland Avenue, Hull. p.43

WANTED, one healthy 1918 fertile Italian, or hybrid Italian, Queen, for immediate delivery.—Write, G. BROCKLEHURST, Sudeley, Winchcombe, Glos. p.44

WANTED, Extractor; good condition.—Send particulars, FOSTER, The Elms, Kempston, Beds. p.45

56 LBS. first grade pure English Honey, 2s. 3d. lb.; safe delivery.—NORTH, Cressing, Braintree, Essex. p.46

WANTED, immediately, six strong, healthy Stocks of Bees.—Cash price, and full particulars, to A. LEWIS, Felbrigge, Norwich. p.47

WANTED, a healthy Stock or early Swarm of Dutch or Italians.—PATTINSON, Hollythwaite, Windermere. p.48

ONE TIN Granulated Honey, about 28 lbs., chiefly from clover and heather. What offers?—THOS. LLOYD, Cilmery, Builth Wells, Breconshire. p.49

EIGHT standard 16 in. square Excluders, 2s. each, delivered.—STEPHENS, Barton, Winscombe. p.50

WANTED, two strong Stocks of healthy Bees for early delivery.—GEARY, Florist, Barwell, Hinckley. p.51

7 LB. HEATHER HONEY, tin and postage free, 19s. 6d.—WM. WRIGHT, Pickering. p.52

WANTED, Stock or early Swarm; guaranteed healthy.—LOWE, Lilac Villa, Chilwell, Notts. p.53

WANTED, by the Notts B.K.A., Expert, preferably female, April-August, 1919, to work the re-stocking scheme.—State qualifications and salary required to G. HAYES, 48, Mona Street, Beeston, Notts. p.12

FOR SALE, or exchange for property in England (small holding), Market Garden, Small Fruit and Apiary, 3¾ acres, cottage, greenhouses, barn, bee houses, 18 colonies Italian Bees and equipment, ½ acre raspberries and black currants, etc., 4 years old, fertile soil, early tomato land; a money maker; splendid climate; near London and Toronto, situated in village of 800; low taxes.—Apply, GEO. TUDDENHAM, Lucan, Ontario. p.32

WANTED, to rent for one year, with option to buy, Cottage and about 4 acres of land suitable for fruit, bees, and poultry; if possible with accommodation for general stores or tea shop. Land must be sandy.—"F.," B.B.J. Office, 23, Bedford Street, W.C.2. p.34

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

WANTED, healthy Stocks of British Bees, strong, on six, eight or ten frames, that have not swarmed; not to be delivered before June 11 or after June 21.—PRYOR, Breachwood Green, Welwyn. p.14

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

VIRGIN QUEENS, disease resisting, leather coloured, bred from our best Italian stock, booked now; delivery end of May, 5s. 6d.; June onwards, 5s.; safe arrival guaranteed. If injured in introducing will replace at half price on return of dead queen.—APIARY, Buckfast Abbey, Buckfast, Devon. p.18

BEES!—Expert advice offered for 2s. 6d. Apiaries inspected and put in proper order; charges moderate. Also a few empty Hives for sale.—Apply, DAVID HUNTER, Craighead, Abington, Lanarkshire. p.54

ITALIAN Hybrids, disease-resisting strain.—A limited number of 3-comb Nuclei, delivery end of May, 1918 Queens; or about June 20, 1919 Queens. Price 2 guineas, including box. Fertile Queens in season 6s. 6d. each.—HOSEGOOD, 7, Purley Park Road, Purley, Surrey. p.55

DUTCH BEES, 4-frame Nuclei, May and June delivery, also six Dutch-Italian Nuclei; £3 3s.; cash with orders; carriage paid.—SEALE, Hardumont, Oatlands Drive, Weybridge, Surrey. p.56

12 SIX-FRAME Italian Stocks, crowded with bees, brood and stores, 1919 queens of Simmins' famous White Star strain, for delivery second week in June, five guineas each. Cash with order.—PEARSON & GALE, Marlborough. p.57

WOOD for Hive Making.—Empty munition boxes, 23 in. by 15 in. by 8 in., 1 in. planed boards, 1s. 6d. each, or 6s. 6d. cwt.—72, Norton Street, Hockley, Birmingham. p.58

STOCKS of Bees, 90s., 10 bars, 1918 queens, carriage paid; Nuclei, 3 bars, 1919 queens, 42s.; two-frame Extractor, geared, good condition, 40s.—ALLBON, Sunnyside, Hitchin. p.59

ITALIAN Virgin Queens, bred from Simmins' and Penna's strains, delivery end of May onwards, 5s. 6d.; also home-mated Queens, same strains, from June onwards, 10s. Safe arrival guaranteed.—MISS PALING, Golden Square, Henfield, Sussex. p.60

STRICTLY BUSINESS.—Six packages Flavine, 6d.; "Intensive Bee-keeping," 6d.; a Japanned Sprayer, 5s.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. p.61

THE PREMIER BEEHIVE CO.,
BYRON STREET, LEICESTER,

Are now booking orders for Nucleus, Italian-Dutch Hybrids, 2, 3, and 4 frames, 35s., 47s. 6d., and 60s. respectively. Orders delivered in rotation as booked.

Try our Premier Standard 10-frame Hive. This hive has all our latest improvements, absolutely the best constructed hive on the market, every hive guaranteed interchangeable; price, 42s.; with three coats of paint, 6s. 6d. extra.

We also make Standard Nucleus Hives to take 5 frames, which we recommend for nucleus-making; price, 17s. 6d.; three coats of paint, 2s. 6d. extra. p.62

RESTOCKING.

Queen Rearing Made Easy.

Complete Outfit, 2 Frames, 18 Waxed Cell Cups, 12 Cages, Jelly Spoon, Transferring Needle, simple instructions by an expert, 15s., postage 6d.

Kat-a-log of all up-to-date Appliances free.

MEADOWS, SYSTON, LEICESTER.

HONEY EXTRACTORS.—Combined Extractor, Strainer, and Ripener, the "Perfect," Sale or Hire.—DAVIES & BAKER, 46, Princess Street, Wolverhampton. p €5

NORTH OF SCOTLAND COLLEGE OF AGRICULTURE.

THE GOVERNORS invite applications for the post of Assistant Lecturer in Bee-keeping under the College. The commencing salary for this post is £100 per annum, with appropriate War Bonus.

Letters of application, giving full particulars of qualifications, together with 30 copies of not more than five testimonials, to be lodged with the undersigned not later than Saturday, May 17, 1919.

WILLIAM MURISON,
Interim Secretary.

41½, Union Street, Aberdeen.

By Order of the Owners, on Dissolution of Partnership. For Absolute Sale.

DOLLIS PARK POULTRY FARM,
Nether Street, Church End, Finchley.

Within a few minutes of G.N.R. Station, near the Main Road, with its constant service of Trams and 'Buses to the City and West End.

Notice of SALE BY AUCTION of the Entire Stock of Up-to-date SCIENTIFIC UTILITY POULTRY FARM, comprising Pedigree Laying Stock, Modern Intensive and Semi-intensive Fowlhouses, Hurdles, Wire Netting and Posts, new Modern Incubators, Foster Mothers, Hen Coops, dry Mash, Hoppers, Fountains and Feeding Troughs, Stocks of British Bees; also several W.B.C. Bee Hives and many Appliances, also Breeding Sows and Store Pigs, Food Bins, Measures, Weighing Scales, Platform Scales, and a large quantity of very Useful Effects, which MR. WM. HOLLIS has been instructed to Sell by Auction, on the Premises, on THURSDAY, APRIL 24, 1919, at two o'clock precisely.

May be viewed Mon., Tues. and Wed. prior and morning of Sale, and Illustrated Catalogues obtained from the Auctioneers, Church End, Finchley, N. (Telephones: 379 or 53 Finchley), or 15, Church Road, Hendon. N.W. (Telephone: 153 Finchley)

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

THE
British Bee-Keepers' Association.
Insure *now* against loss by damage done through bee stings. All particulars from
W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

IN WAR-TIME
The Nation's Food is of prime importance. The products of the Apiary, of Poultry and Farm Stock, of the Fruit and Vegetable Garden can be augmented. Buy your stock, sell the produce, through THE BAZAAR, EXCHANGE & MART Newspaper.
Get a Copy—Thursday and Saturday, 3d. The "Bazaar" publishes also practical handbooks by experts. Send for full catalogue, ———post free from———
WINDSOR HOUSE, Breams Buildings, LONDON, E.C.2

WATCH YOUR WATER SUPPLY.

A correspondent in the last issue of the B.B.J. states, "I am strongly of the opinion that the primary cause in the first onset of the disease ('I. of W.') making its appearance in this country lies in the polluted condition of our streams, which to my mind is a growing evil of late years, not only to insect life, but to the animal kingdom also." There is no doubt that the water supply is a frequent source of infection and it is surprising how many bee keepers fail to provide drinking fountains for their bees. Where this has been done, and the water medicated with "Bacterol," the advisability of such a precaution has been proved by the results obtained. As a general disinfectant and germ killer for bee keepers, General "Bacterol," is ideal. It is without stain, does not taint the honey, and most remarkable of all, the bees like it. Experts have proved over and over again its value in protecting and curing stocks of "Isle of Wight" Disease. No bee keeper should be without it.

DIRECTIONS FOR USING "BACTEROL" FOR "ISLE OF WIGHT" DISEASE.

Medicate each pint of Syrup with 1 teaspoon of General "Bacterol." Stir in when syrup is just warm or cold. **See that all stores of honey are removed before giving syrup.**

ALTERNATIVE METHOD.—Spray two or three times daily all crawlers on alighting board and in front of hive with a solution of 1 tablespoon of General "Bacterol" to 1 quart of water. Use a mist sprayer, obtainable from any bee appliance manufacturer, not an ordinary syringe.

A 5 per cent. solution (4 tablespoons to quart of water) sprayed over and inside the hives will disinfect any excreta and destroy all germs and parasites.

It is manufactured by "Bacterol," Limited, London, N., and may be obtained post free by sending P.O. for 2s. 6d. for a half-pint bottle from either of the following addresses:

"THE BRITISH BEE JOURNAL," 23, Bedford Street, London, W.C. 2.

A. W. GAMAGE, Ltd., Holborn, E.C. 1.

JAMES LEE & SON, Ltd., George St., Uxbridge.

E. H. TAYLOR, Welwyn, Herts.

THE SERVICE FURNISHING SOCIETY, Ltd., 289-93, High Holborn, E.C. 1.

FROM

MENLEY & JAMES, Ltd., Menley House, Farringdon [illegible] London, E.C. 1.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur."

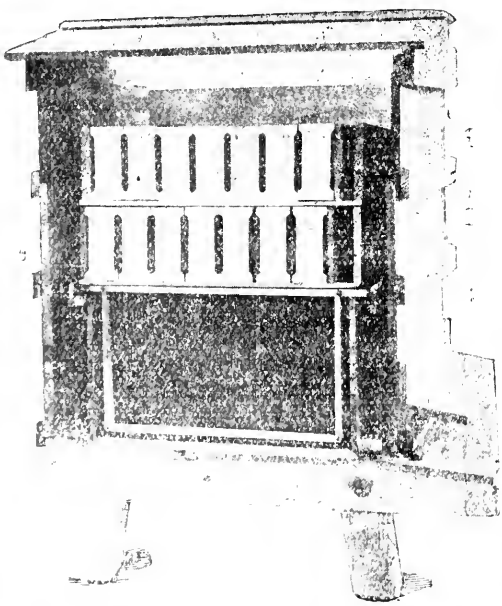
Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

NEARLY 50 YEARS ESTABLISHED.

KENT BEE HIVE WORKS.



The oldest establishment in the Kingdom wholly devoted to Bee Appliance Manufacture. W.B.C. Hive, as sketch (outside square cases). Brood Box (11 frame capacity), 2 supers (room for 3).

Painted, complete, as above £2 14 0

Fitted wired foundation ready for working... ... £3 16 0

Full List of everything connected with Bee-keeping.

S. J. BALDWIN,

The Apiary, Bromley, Kent.

Bee Diseases.

It is a good sign that so many independent investigations are being made into the diseases of bees by very capable men. We hope that the whole of their attention will not be focussed on the scourge of "Isle of Wight" disease, but that the diseases of brood, that were the scourge of bee-keepers in our early days at the craft, will receive attention. We well remember in those days anything wrong with the brood was at once dubbed "Foul Brood," for which there was no cure. Further investigation proved that there was more than one disease the brood was subject to, and now we have not only just foul brood, but two types of that disease, and also sour brood, black brood, and sac brood—the two latter being more prevalent in America than here.

It has often struck us that probably similar conditions prevail in regard to "Isle of Wight" disease, and that this may account for the absence of *Nosema apis*, in so many cases where the bees have undoubtedly died from what is commonly known as "Isle of Wight" disease. It may be that investigators are making the mistake of looking for only one disease when there may be more than one, or at least more than one variety, or type, of the one disease, as in the case of foul brood, one of which is much more virulent, infectious or contagious, and difficult to eradicate than the other.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2., on Thursday, April 17, 1919.

Mr. T. Bevan presided, and there were also present Miss M. D. Sillar, Messrs. G. Bryden, W. H. Simms, F. W. Watts, J. Smallwood, J. Herrod-Hempsall, J. B. Lamb. Association representatives: R. R. Babbage (Middlesex), N. Grant Bailey (Cheshire), P. Ryan (Bucks), W. Wagstaff (Hertfordshire), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to be present were read from Messrs. T. W. Cowan, W. F. Reid, G. W. Judge, G. J. Flashman, A. G. Pugh, C. L. M. Eales, G. R. Alder, F. W. Harper, and Sir Ernest Spencer.

The minutes of Council meeting, held on March 20, 1919, were read and confirmed.

The following new members were elected: Miss M. S. Wingate, Messrs. W. J. Hutchings, H. W. Chapman, H. Helbawy, C. F. Jarman, J. A. Ralph, J. Rae, R. Litman.

Representatives nominated by affiliated Associations and accepted: P. C. Clark (Peterboro'), Rev. A. C. Atkins (Sussex), Major C. C. Lord (Kent), N. Grant Bailey (Cheshire), J. Price (South Staffs), F. H. Taylor (Lancashire), H. M. Riley (Leicestershire), M. Sanderson (Northumberland), W. E. Hamlin (Surrey), W. Valon (Staffordshire), J. Rae (Essex).

The chairman gave a hearty welcome to the two new representatives from Cheshire and Bucks, and expressed the hope that they would be able to attend the meetings regularly, and assist in the work of the Association by their support and advice.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for March amounted to £58 19s. 3d. The bank balance on April 1 was £153 13s. 1d. Payments amounting to £61 5s. were recommended.

The Essex Association applied for a Preliminary Examination, and the same was granted.

A letter was read from the London County Council giving permission for the apiary of the Association to remain in their park at Golders Hill.

A resolution was received from the Weeley Food Producers' Association thanking the Association for the efforts it is making to obtain legislation for bee diseases.

Letters *re* publicity of the transactions of the Asociation were read from Mr. Jarman and Mr. A. W. Salmon. After a long discussion it was resolved that the matter be brought up at some future date.

Next meeting of Council May 15, 1919, at 23, Bedford Street, Strand, London, W.C.2.

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, April 25, May 2, 9, 16, 23, 30, at 6.30 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to

W. Herrod-Hempsall,
23, Bedford Street,
Strand, London, W.C.2.

A simple "chat" on bees will be given free, at 3.30 each afternoon before the lectures.

A Dorset Yarn.

To-day, Saturday, at the farm we gave our bees the first racks of sections, to all that were strong. They seemed to appreciate the extra room, three of them were up over the top of the sections in great numbers before the cover was placed on. We like to give the first rack a glass cover, either a whole sheet or two or three strips. If the first rack used has a bee space margin above the sections, the glass has only to be laid over, when glass is not large enough to cover the whole, a wooden frame with the sheet of glass in centre is used, these are really better for taking off in August when so much propolis has been used by the bees, as the frame gives way to the chisel lever, and glass will at times break when lifted, if it is at all cold; when there is plenty of heat in the hive it will come off easily. The other rack is used beneath the first. As the season for honey advances, tops of sections should be flush with the rack, or the bees will build small pieces of comb between. We gave our lot in the early part of the week more syrup, as they were not about the lines of trees as we would like to see them, but Friday and Saturday they were away on the gooseberry fields in great numbers. They prefer the gooseberries to plums, or pears, many more on the bushes than the trees, they seem to find nectar as the flowers unfold, but with Jargonelle pears the nectar is not available to them until the flowers are more advanced.

I am hoping they will fill up some of the sections now the gooseberries are open, though it cannot be wholly from them, many trees as we have, as peaches, plums and many pears are open this last week, but it will be largely from this source. Other years we have thought that the first sections harvested by the bees were the best flavoured; it may be because it is new, but they were most delicious tasting.

The bees did not get much from the willows this season, it was so cold, not many hours were they able to get out to collect it; many of the male flowers were spoilt with frost and wind, the female flowers are not so showy; could not see if they were hurt or not, but certainly the bees were not with them so much as other seasons.

My friend Mr. Batson tells me he has the Dutch stocks come for the re-stocking scheme of the County Council. He describes them as queer-looking hives. They are made of wicker and straw, are barrel-shaped, with an entrance in the middle, as the bung hole would be in a barrel. He could not see how he was to get them out on to bar frames, as there was sure to be brood. It would be bad policy for the re-stocking scheme to destroy brood; if they swarm so much as writers in B.B.J. say they do there is no reason why they should not stop there until they do swarm: it is only a question of other queens as the season advances. Have the Dutch people found a better system of ventilating hives than we? with their deep built hives, with entrance well up, so that the bees should only build in the cone and have plenty of ventilation below.—J. J. KETTLE.

Interesting Figures.

Conservative estimates place the number of bee-keepers in the United States at 800,000. The average number of colonies held by these will run about 10. The value of the aggregate average crop is at least $20,000,000, while the value of the beeswax may be set down as $2,000,000. Dr. Phillips estimates that the annual crop in U.S. will run from 25 to 30 sections per hive, and extracted from 40 to 60 lbs. of extracted honey. The former sells at 15 to 25 cents per section, and the latter from 10 to 20 cents. Expenses per colony will come out as from half to a whole dollar! An attempted census in Canada points to 125,000 colonies in the Dominion, but Mr. Morley Pettit says 300,000. The first authorities set down the value of honey sold as $1,000,000. Other authorities say at least $2,000,000.

The standard frame on the other side, the Langstroth, measures $17\frac{5}{8}$ in. in length, $9\frac{1}{8}$ in. in depth. The brood body space favoured by many is either 8, 10, or 12 frames, and these are spaced at $1\frac{3}{8}$ in. or $1\frac{1}{2}$ in., from centre to centre. Our frames are only 14 in. by $8\frac{1}{2}$ in., and are generally spaced at 1 9-20 in., the true W.B.C. metal ends affording this spacing. Some like deep frames, one, the American, measuring 12 in. by 12 in. in depth, and the Gallup $11\frac{1}{4}$ in by $11\frac{1}{4}$ in. deep.

In spring the number of bees in a set of hives may average only about 10,000, in the height of the season they may mount up to 70,000. Sometimes a swarm may number as high as 35,000. The number of eggs laid by a queen in early spring may be only "a few daily." This may later run up to 1,500 to 2,000 a day—under special circumstances and conditions to as many as 4,500 to 5,000 in 24 hours. The weight of these eggs may equal "twice the weight of the queen." There may be 40,000 developing bees at one time in a hive. As many as 1,500 bees may die daily. A queen may lay 1,500,000 eggs during her life.

Below 45 deg. F. the individual bee loses its power of movement. Generally, the heat of the cluster stands about 98 deg., but it may range up to 130 deg.

Bees may come out in spring to have a flight when the temperature of the air is about 50 deg., but at other times they may remain inside when it is as high as 70 deg. They close cluster when the air surrounding them drops below 75 deg.

DEVELOPMENT STAGES.

Stage.	Queen.	Worker.	Drone.
Egg ...	3 days	3 days	3 days
Larva ...	5½ ,,	6 ,,	6½ ,,
Pupa ...	7½ ,,	12 ,,	14½ ,,
Total ...	16 ,,	21 ,,	24 ,,

Spending her time so much out of doors, powerful vision is essential to the worker, so she possesses about 6,300 facets in each compound eye. The queen going out of doors but once or twice a year requires less, so I found only 4,920 facets. In a drone, who has to follow the queen in her flight, compound eyes must be extraordinarily developed, so the facets number 13,090 on each side of the head (quoted from Cheshire). Each antenna of the worker bee possesses 4,200 of what Cheshire calls "smell hollows," the queen has 1,600 on each. On the nine joints of the two antennæ of the drone we find the astounding number of 37,800 distinct organs. Nearly 20,000 organs on so small a thing as the antenna of a bee!

Flammarian says:—"An atom cannot be larger than one ten millionth of a millimetre. It results that the number of atoms in the head of a pin would be no less than 8,000,000,000,000,000,000,000. If it were possible to count these atoms and to separate them at the rate of a million per second it would take 250,000 years to number them.

An average queen has the power of producing 2,000 to 3,000 eggs daily. These would occupy a cubic inch, and weigh 270 grains. She thus yields the incredible quantity of twice her own weight—or more accurately, *four* times, as half that weight then consists of eggs.

A hive may contain 1,200 square inches of comb occupied by brood. As there are 55 worker cells to the square inch of comb, 27 or 28 on each side, we multiply 1,200 by 55, and have 66,000 cells. In 21 days the egg becomes the perfect insect and we have 3,145 as the average number of eggs laid daily by that queen in 21 days—so 3,500 eggs may be laid per day. In the height of the season there are between 50,000 and 100,000 bees in a hive, and there may be an additional increase over mortality (for a time) of perhaps 2,000 bees daily.

In a colony of 50,000 bees it has been estimated that there are 30,000 field bees, and if each fielder makes 10 trips a day, then there would be a total of 300,000 visits to flowers in a single day. About 37,000 loads of nectar are required for the production of a pound of honey, and, according to locality, a hive may gain from 1 to 10 lbs. of honey in a day.

NOTE.—The foregoing figures were gleaned while reading the works of Dr. Cook, Dr. Phillips, Lovell, Langstroth, and Pellett, all American books.—D. M. MACDONALD.

Notes on "Isle of Wight" Diseases.—IX.

TYPES AND CAUSES.

In spite of the fragmentary character of these notes, it would have been probably more correct to have used such a title as "Notes on the Abnormal Disabilities of Adult Bees" instead of the present heading. The latter was adopted, however, on account of its popular, although erroneous, use, since it appears that almost all the misfortunes that may befall a colony of adult bees at present are generally believed or suspected by many to be the outcome of "Isle of Wight" disease, a term which was originally restricted to an infectious epidemic of illness scientifically called *microsporidiosis* or *Nosema disease*. The old volumes of the BRITISH BEE JOURNAL, and even older bee literature, will testify to the fact that *foul brood* was for a considerable time, together with what is simply termed *dysentery*, held responsible for great misfortunes in British apiaries, and this notion is still reflected to a great extent in modern manuals of bee culture. But as the identification of bee diseases became more developed we had gradually to give up several faulty notions, and to realise that we have various diseases to deal with, and that it is possible, moreover, to get two diseases at the same time, and to attribute to the milder trouble the ravages of the other, if not sufficiently understood or detected.

Leaving aside the gross mistakes that were likely committed in the past in unjustifiably attributing the abnormal dwindling or loss of colonies almost to one infection alone, apart from multiple superstitions, interesting review of extracts from old literature showing the past incidence of similar epidemics both in this country and abroad will be found in Supplement No. 8 of the *Journal of the Board of Agriculture*. Supplement No. 10 of the same official periodical gives the following interesting summary regarding the history of "Isle of Wight" disease:—"The study of the records relating to the diseases of adult bees has shown that several outbreaks closely resembling the epidemic under investigation have been described at various times in this country and in other parts of the world during the last two centuries. It is almost certain, therefore, that the disease is not a new one. Attention was first called to the present

outbreak by bee-keepers in the Isle of Wight in 1906, but the records show that it was already present on the mainland, though the losses were attributed to other causes. At the present time no part of Great Britain appears to be free from it."

It is conceivable, of course, that at one time or the other a certain epidemic of "*Isle of Wight*" *disease*, or *foul brood*, made its appearance; at the same time, no one will fail to notice that, according to the popular dread of a certain disease at any time, the popular notion is usually to attribute to it by many nearly all the failures of the apiary, until further light is shed on bee diseases, and then a more modern superstition arises.

Seven years ago the official researchers in this country not only succeeded in the experimental inoculation of the disease, but also proved that "*Nosema* in its young stages (in summer) or in its spore stage can be demonstrated in specimens from the great majority of diseased stocks, and that it has seldom been found in specimens from healthy stocks." Therefore, unless some gross mistakes in their technique have been committed (and no evidence in proof of this has so far been advanced, although a good deal of dogmatic ridicule has been reflected from time to time by unqualified observers), there is no doubt, from the exhaustive information supplied, that *micro-sporidiosis* as a serious bee infection does occur. That it does not occur at present in such a great proportion as used to happen some years ago only means one or more of the following explanations:—(1) The association of *Nosema* incidence, when the great epidemic was prevalent, with other bee diseases, whether infectious or otherwise; such diseases possibly declare themselves now without that association. It is not uncommon in widespread epidemics to get, apart from healthy "carriers," the association of apparent but not actual infection with other diseases of somewhat analogous symptoms. (2) The possibility of the existence of various bee infections due to non-specific organisms, but primarily dependent on reducing the stamina of the bees through bad diet, faulty breeding, etc. (3) The likelihood of the prevalence at present, and possibly in the past, of an independent though allied infectious bee disease, due to an *ultra-microscopic virus*. (4) The improvement in the qualities of many existing colonies by the importation of the Italian bee, which is credited with at least partial immunity from *Nosema infection*; (5) the adoption of better methods of prevention of infection, including antiseptic therapy. (6) Presuming in the case of certain strains of bees that are highly susceptible that the death of the affected bees is accelerated, it is logical *not* to find *Nosema spores* in the majority of such cases; and as for the young forms, they are frequently missed by many average microscopists, apart from the fact that, in spite of their virulent pathogenecity, they are highly fragile and quickly perish soon after the death of the infected bees. (7) It is possible also that the infecting parasites might disappear from the bees themselves and yet the pathological after-effects of their infection remain, the affected colonies dwindling through losses from flight disabilities as well as through deaths from toxæmia. In any case, it is hardly correct to deny the findings of 1912 some years later, when even at the former date the existence of certain bee diseases, analogous in many respects to the typical "Isle of Wight" disease, but not of known origin, was suspected. Moreover, it is interesting for me to mention that out of suspected samples that were sent to me for examination during last year I have noted that, in some cases, samples received from experts of wide experience nearly always showed *Nosema apis* in one form or the other; but in the absence of numerous examinations I shall not attach any importance to this point, although one somewhat suspects that it is not impossible for some experienced apiarists to detect from careful clinical examination the proper "*Isle of Wight*" *infection* in no few cases; on the other hand, it is to be admitted, generally speaking, that disabilities of adult bees not distinguishable in symptomatical features from "*Isle of Wight*" *disease* proper are met with by many apiarists.

The official reports referred to decidedly merit careful perusal of *all* bee-keepers. They contain most valuable information and advice which is worth following. Without taking into consideration the unjustified mistakes by some people in sometimes diagnosing the loose contents of broken-up pollen grains as *Nosema spores*, there is no doubt whatever, to judge from the microscopical reports of the B.B.J. alone, that "*Isle of Wight*" *Disease* proper (or *Nosema Disease*) is still widespread in many districts, although not in so serious a degree as when its first modern ravages declared themselves. In 1912 we were definitely told by the official researchers, in their report, that "taking into consideration the following facts, viz., that *Nosema apis* is met with in 84 per cent. of stocks reputed to be suffering from the disease, that infection experiments have proved that the parasite produces a fatal disease in bees, that very marked destruction of the tissues of the alimentary tract is found in severely infected specimens, whether the condition has been produced experimentally or naturally, and that in less marked infections a high proportion of the cells

lining the alimentary tract are invaded by the parasites and injured, the writers consider themselves justified in taking the view that *Nosema apis* is the causative agent in most outbreaks of disease in which the "Isle of Wight" symptoms are present. Undoubtedly the most certain evidence of the presence of *Nosema apis* is afforded by finding the characteristic spores. Unfortunately these are not always present, and consequently the diagnosis may have to depend on the finding of the young stages of the parasite in the cells of the gut epithelium. Our observations show that during the warmer months the parasites often do not reach the spore stage, but seem to kill the affected bees before this stage is reached." The relation of *Nosema apis* to the disease was confirmed by the same observers a year later.

That educational helpful *legislation for "Isle of Wight" disease* is justified cannot be reasonably disputed, unless adequate evidence could be advanced that Graham Smith and his colleagues have committed a great blunder by their first investigations, which in fact bear every testimony of marked ability. Government inspection must be essentially instructive and compensatory, and not a form of punishment for innocent bee-keepers who suffer in spite of their watchfulness. Only those apiarists against whom gross negligence is proved deserve punishment. Others clearly deserve encouragement and compensation at least for the sake of popularising such a helpful but somewhat neglected branch of food culture as bee-keeping. *The Northumberland Bee-Keepers' Association* have set a worthy example* of helpful co-operation, educational as well as economical. At the same time it is curious that such a leading and progressive association should pass a resolution "that the bee-keeping industry will not be safe, until we get legislation, which could be easily effected by adding to the present Diseases of Animals Act the clause 'this includes bees.'" I shall, indeed, be sorry for the future of bee culture in this country should this ever happen. The nature of bee diseases, the limitation of our present knowledge regarding them, the great need for British apiarists of moral and economical encouragement by the State and not of bureaucratic measures, amongst other factors, all call for special considerations in deciding on the type of legislation needed, and yet without introducing undesirable concessions which might render the necessary scheme of inspection, instruction, and control a useless venture.†—A. Z. Abushady.

* The British Bee Journal, April 10, 1919, p. 133.
†The previous article appeared in the B.B.J. for March 13.

Jottings.

That Skep (page 62).—I am very anxious to know on what lines Mr. Thompson proposes to work in his praiseworthy attempt to locate this bee-keepers' bugbear. There should be enough evidence, though, without his efforts taking this retrogressive course. I think we can safely say very little has been missed in the general housing of our winged friends. I am sorry he finds one skep attacked even; it is interesting to think he finds this home has a measure of immunity, but I fail to find any consolation myself, as we who argue from the frame-hive point of view can also point to all sorts of confusing and contradictory results, following the invasion of a so-called diseased hive, left by a careless, and perhaps disheartened, owner. I would suggest, though, perhaps the enormous percentage of losses our friend notices really represent the disparity of stocks in the two kinds of hives. However, as we have no accurate information, this is purely supposition. It is nice to find a clever hive-maker, able to make both kinds. I don't quite follow the efficiency of the diary, though, as he uses modern supers, but available notes would be few and far between.

He also confuses the "queries and remarks" about legislation. No one professes to hope for cures, or bee-training, from the members of our Government, but we do hope to be able to help ourselves if given the right to inspect and destroy disease wherever it is found, with specially trained and proved assistance; while if we can compensate the genuine sufferer so much the better, I think. While, if the trouble be foul brood, something more than a glance is necessary to discover if something is wrong and how to remedy it, and generally this has happened before most cases of robbing take place at all.

Page 79.—The magnitude of the epidemic perhaps excuses the many theories and sources blamed, and emphasises the need for research and national assistance. The Government undertook this in the beginning, unfortunately, without making any precautionary arrangement to stem the disease with expert help, which, as now in the re-stocking scheme, we have the right to expect, to secure any basis on which to build success.

1. These thoughts are sentimental and nice, but why should "man or machine" impart or spread a "bee disease."

2. This in some cases might be a cause. It might be useful and conclusive to prove at what temperature this germ can be killed, but why was this contagion confined to and bred in the Isle of Wight, and, incidentally, after this system of aid-

ing with wax had been practised "very largely" for 30 years!

3. The "constantly handling" and exposure to air, while not necessary or conducive to the comfort of the bees, should retard, rather than foster, any disease. Personally, I think "the day" won, and the frame-hive has come to stay: and when we consider really the need for wax-making in either, the latter hive will more than compare with the "skep." Also when we think of the length of life of the bee, it will readily be seen a vast majority are never called upon to do this at all.

Travelling Swarm Box.—A 12-in. cubic will be found ample to hold an ordinary swarm if ventilated with a 2-in. perforated zinc panel at back. Nail zinc inside; this prevents other luggage interfering with air passage. Two other sides, two 1-in. holes covered in the same way. The lid is furnished with side fillets, so that it can be screwed and unscrewed at sides when the box is inverted. One side hinged by tacking close canvas underneath side provides hiving convenience when unpacking, and should have another protected panel of zinc, or one fillet can be left out.

Dummies.—A flat-headed tack one inch up and three-eights in, if left standing out half an inch, ensures correct space, and prevents disfigured outside combs.—A. H. Hamshar.

Notes from Gretna Green.

The pages of our Journal nowadays reek of disease, and teem with suggestions for combating the same. But, while it is a melancholy fact that no real remedy has been found, we notice that some colonies are at least temporarily immune, and survive in the general wreck of an apiary. When a bee-keeper in Rossshire, I used to super a dozen stocks each summer. Here, for the third year in succession, I am reduced to a single working colony. In 1917 the survivor was an Italian stock, and gave a heavy surplus, only to collapse during the following spring. My entire 1918 crop was secured from a strong stock of Black bees, and they, in their turn, were wiped out completely.

I closed down last autumn with nine good colonies, Italians, Hybrids and Blacks, some on both sugar and honey stores, others on sugar alone, and on honey alone.

Different methods of wintering were tried. Light covering, warm packing, small entrances and large ones, stored super over brood chamber, empty space between brood frames and floorboard.

Also stocks domiciled in a hayloft to compare with those on the ground floor.

It was all to no purpose. The roll call last week showed that once again I was left with a single good colony—Hybrids this time—and five weaklings, ranging from one comb of bees to a miniature lot, with something like a drill sergeant's squad marshalled round the queen.

Extreme Prices. — Personally, I don't consider 10s. 6d. too dear for a fertile Italian queen, but I cannot imagine any reasonable person asking that price for an unmated one. But, what are we to say when asked five pounds sterling for a skep hive of bees? I enclose, for our Editor's inspection, the quotation sent me, and add that the dealer concerned expects to sell several hundred Dutch skep stocks at that figure. Now, I don't blame Mynheer van Gonda or his British agent for getting the highest price they can. Human nature being what it is, we should nearly all do the same if given the opportunity, and would certainly realise our "stocks" at the highest market price now, for the inevitable "slump" is at hand.

Possibly the cheery optimists who pay these fancy prices expect to get their own back by selling this season's honey at 2s. 6d. or 3s. per lb. They forget that enormous quantities of honey held up by lack of shipping are now coming from overseas, and prices have fallen to a third of what they were. I enclose an "ad." showing Australian honey offered in the "Grocer's Gazette" at 7½*d. per lb.*, or less in 5-ton lots. This means that we have to accept a reduced price for our home-produced honey, and must produce at less expense.

If dealers demand extortionate prices for bees, hives, or appliances, let them keep their goods.

There is no need to pay pounds for a hive when one can be made from a couple of tea chests costing a 1s. each; and no need to pay extravagant prices for nuclei, when they can be made up cheaply at home.

Increase and Surplus.—My one strong colony covering all ten frames last May was doubled by putting half the combs and brood in the centre of a new brood chamber, filling up at each side with frames of foundation, the original brood box being similarly arranged and placed above the other. These new combs were gradually worked out as the bees and queen required more room, and all twenty frames of comb were occupied when the clover flow began.

I then reduced the colony to a single storey on eight new combs, and supered at once.

The older hatching brood combs were put on a new stand, a fertile queen given,

and then supered, also on eight combs only. The first lot stored in five racks, the other in three, about 130 saleable sections being taken from the two, and were sold at up to 2s. 9d. each wholesale.

If requiring more increase, instead of supering the removed portion, I could have divided it up into three 4-frame nuclei, giving each a fertile queen.

Of course anyone can repeat this method with a stock of common bees, and buy selected Italian queens, ending with four stocks in place of one, a good surplus of honey as well, and no great expense incurred.—J. M. Ellis Gretna, Carlisle.

New Forest Bee-Keepers' Association.

Annual Meeting.

The annual meeting was held at the Church Room, Brockenhurst, on Saturday, April 19., about 30 members being present. Owing to the unavoidable absence of the Rev. W. L. Mylrea, M.A., Mr. C. S. Lermitte presided.

The Lady Gertrude Crawford was re-elected president; Lady St. Cyres, Lady Helen Whitaker, the Hon. Mrs. Whitaker, the Hon. Lady Whitehead, Mrs. Perkins, Mrs. Shrubb, Sir Beethom Whitehead, K.C.M.G., C. S. Lermitte, Esq., W. F. Perkins, Esq., M.P., W. J. Whitaker, Esq., J.P., C.C., and H. Whitaker, Esq., vice-presidents; chairman, Rev. L. W. Mylrea, M.A.; hon sec. and expert, H. Bright; treasurer, C. S. Lermitte.

The annual report and balance sheet were adopted, the latter showing a balance in hand of £14, which was considered satisfactory. The membership is 66.

"Isle of Wight" disease has been rife in this neighbourhood during the past season in spite of various precautions being taken.

Lantern lectures in several villages have been given, also lectures on practical bee-keeping to the wounded soldiers, which have been appreciated.

Sheffield and District Bee-Keepers' Association.

There was a very good attendance of members and friends of the above Association at the Tontine Café, Sheffield, on Thursday, April 10, to hear a lecture by the Rev. G. H. Hewison, M.A. The vice-president, C. M. Hansell, Esq., occupied the chair. The lecturer explained in a very detailed manner how to clean hives and appliances after being infected with disease, also the best way to clear out and destroy diseased combs and bees. The lecturer pointed out that he was there to lecture on behalf of the Yorkshire Council for Agricultural Education, and it was their desire to see that bee-keepers made a thorough cleansing of their hives before receiving the Government nuclei, and then they may hope for success if they could persuade their neighbouring bee-keepers to copy their example. The lecture was illustrated with some very good lantern slides. After lecturing for over an hour, the lecturer was asked to continue, which shows the great amount of interest taken by those that were present. A hearty vote of thanks to the lecturer was proposed by Mr. Scott and seconded by Mr. Livsey.—W. Garwell, hon. sec.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

How to Keep Clear of Disease.

[9897] I have taken a keen interest in the correspondence that has appeared in The British Bee Journal for some time past about the dreaded "Isle of Wight" disease, and I have noticed that the experience of bee-keepers with the "cures" and "preventives" varies considerably, for what apparently has been successful with one, has been a failure with another. The theories put forward as to the cause of infection have, in some cases, been, to say the least, novel; but as we at present know very little as to the cause of the disease, we should certainly be wrong in casting any serious suggestion aside, until it has received its due amount of consideration.

I think our friend Dr. Abushady is on the right track in his experiments. What we want is to find the cause, and until that is discovered, I am afraid we shall make but little progress. I heartily agree with the suggestion that we need a Government-appointed Research Committee of scientific experts to search this matter out, and do something for the bee-keeping industry.

Personally, I must consider myself one of the fortunate class of bee-keepers. I cannot claim to be a veteran, but I certainly can claim to be a little further advanced than a raw recruit to the craft, yet "Isle of Wight" disease has never appeared in my apiary up to the present,

although I am fully aware of its ravages not far distant. Whether I have an immune race of bees, or whether my method of working has something to do with it, I do not know. If it would be any benefit to other bee-keepers, I will just, as briefly as possible, describe my method.

I use one type of hive only, the W.B.C. pattern, home-made, all parts being interchangeable. Skeps are not used. The floorboards have a circular ventilating hole, about 3 in. in diameter, covered with a piece of perforated zinc, with a shutter worked from underneath, which can be opened or closed at any time. The roofs are covered with painted calico, and no wet is allowed to soak through. Proper ventilation and freedom from damp are considered two very important factors. Hives are spring-cleaned and disinfected with "Izal" about the end of April every year.

As the swarming season approaches each hive is opened and examined at intervals of a week, or ten days, any queen cells found therein are destroyed, no natural swarms being allowed to issue. If increase is desired, either nuclei are formed or artificial swarms are made, according to the formulæ in the *Guide Book*. All stocks are wintered on syrup, medicated with "Baeterol," given rapidly in late August and September. All stocks are kept vigorous by re-queening every year with young queens bred in the apiary, and, whether right or wrong, more importance is attached to this than any other factor, in the prevention of disease, the motto being, "Never keep a queen for more than one honey flow." True, there is a certain amount of sentiment in most of us, and it is only natural to shrink from destroying a queen that has done remarkably well; but sentiment here has to be thrown on one side, and her ladyship must be superseded.

With regard to combs, old and black ones are discarded, two seasons being considered long enough to use the same brood combs.

One more point might be mentioned, and that is, that no more stocks are kept than can be properly attended to. Undoubtedly this method of working is time-taking, but it pays. Many bee-keepers have more stocks than they can properly manage, the apiary gets out of hand, stocks become neglected, thereby giving the disease a chance to become established, eventually most of them being lost, besides endangering those of other more careful bee-keepers.

I do not claim that my methods are, in any particular, different to some other bee-keeper, but if there are some who have not worked on this method, then, from my own experience, I would advise them to try it.—W. T. HOWLETT, New Malden.

[No doubt our correspondent's freedom from disease among his bees is due as much—or more—to his careful and painstaking methods as to good fortune, or his strain of bees.—ED.]

Overcrowding and Disease.

[9898] I read THE BRITISH BEE JOURNAL with keen interest, and being more or less a novice to modern methods, with a taste for experiment, I am interested in the new theories put forward from time to time. One is bees in a loft or housetop. I have not yet seen any notes on how the unfortunate bees are getting on. In this very rainy locality bees in housetops seldom survive a couple of years, and I wonder is it a fresh swarm taking possession that accounts for a colony being several years in some lofty situations? The bee disease problem seems to me due to overcrowding. If one keeps too many poultry, or, indeed, too many of any living thing in too small a space, disease breaks out. Too many colonies of bees in a locality seem to me the first cause of disease. It is a problem to know how many colonies a given locality can maintain in a flourishing condition. We can tell so many will do well, but how many more can be added and yet do well. An unfailing source of copy for newspaper men is the housing problem, the plot problem, the working hours' problem. But what about our hard-working little friends, who for a great part of the year have a 24-hour day?

Then the hive may be overcrowded by not giving space in advance of requirements in spring and summer, or even in autumn by removing extra space. Bees have landlords, and not always considerate, or rather sympathetic, ones. So far as I have learned they require a perfectly dry hive, a warm one, ventilation, and plenty of rations.

Bees require constant care if they are to do well, and not merely live and multiply. I have seen them live, and fill sections, in a wet hive, and know people, several, who never trouble except to put on sections, or remove them, and who leave sections on till the next season, and who rob their bees with violence.

I would like our wise bee men to discourse on overcrowding *re* diseases. My motto is three or four hives in three or four apiaries, three or four miles apart. I have never had any kind of disease, and my natives do make honey. This is not a good locality for bees, and there

are none within miles. My father did very well with bees until, thirty years ago now, foul brood ruined them; but he had added several hives for a few years, and got less honey for more hives, until no surplus was given, and the next year foul brood appeared. My average last year was 60 lbs. per hive, besides what I returned to increase stores. I never feed a stock otherwise.—"LIGULA," Galway.

Wax Secreting and "Isle of Wight" Disease.

[9899] Mr. E. G. Lowe's article in April 3, 1919, BRITISH BEE JOURNAL.

Do modern methods of supplying drawn-out combs suspend the wax secreting function?

Certainly not entirely, for the cappings have to be made.

But do they even reduce the wax secreting function? I doubt it.

I almost am inclined to believe that by giving frames of foundation, and drawn-out comb, we may so increase the working fever, and so increase the work done, that what with cappings, and "bits added here and there," the bees (as individuals) may make more wax in a given time than they would do in a wild colony.

Supposing the wax gland to be overstimulated, is it not possible that it goes on secreting wax, even when the bee is at rest (*e.g.*, late autumn), and the wax not being worked out in plates in the usual way finds its way into the intestine and rectum. I hope this suggestion may be helpful. I only wish I knew enough about the subject to be able to follow it up myself.

This hypothesis would include swarms, as well as covering the other observed conditions mentioned by Mr. Lowe; but I am afraid it does not help to explain the infectious nature of the disease.—(Major) H. A. P. LITTLEDALE.

An Appeal.

[9900] I should be glad of the kind hospitality of your columns for the following appeal:—

I have started a small School of Bee-Keeping for Disabled Soldiers at Cambridge, which is to be run on co-operative lines, each member subscribing a small sum to defray cost of bees and appliances.

Several well-known bee-keepers have volunteered their services as instructors, and Professor Stanley Gardiner has very kindly given us every facility for lectures and work in the biological laboratory.

There will be a home apiary and an out apiary run in conjunction with the school, where the latest approved scientific methods will be taught.

Owing to the shortage of bees in the country, we shall be somewhat handicapped at first. Should there be any members of the British Bee-Keepers' Association or readers of the BEE JOURNAL who would like to contribute by supplying stocks or swarms during the coming season I should be grateful if they would correspond with me at above address.

We are endeavouring to form a library of bee books, and have had several kind contributions already. If anybody would care to help by sending any books, old or new, connected with practical bee-keeping, they will be most gratefully acknowledged.

R. E. ST. B. BAKER.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

J. J. P. (Slough).—*Cutting comb to obtain queen cells.*—(1) The object of cutting away the lower half of the comb is that the bees will utilise eggs on the lower edge of the comb left for rearing queens, the cells being more "get-at-able" in that position should it be necessary to cut any away for use in other hives. There is also more room for them to be properly developed. (2) All the "field" bees will return to the old stand, and there will be very few left in the parent colony to go out and gather nectar.

B. C. S. (Finchley).—*Platform for hives.*—This may be made of concrete, or asphalt. The hives may face S.

J. E. SHORT (Cornwall).—*Italian-Dutch hybrids.*—Rear the queens from the Italian stock.

"CONSTANT READER" (Southport).—Yes.

MISS ROWNEY (Derbs.).—¼ grain to each pint of syrup; for spraying ½ grain to a quart of water. Use a pint of the solution to 1 lb. of sugar. The best time for requeening depends on the age and condition of the present queen. If she is old or failing requeen as soon as possible. If she is a good last year's queen, replace her directly after the honey harvest.

"BROOK" (Derby).—No. 1, Dutch or native; No. 2, hybrid Italian.

Suspected Disease.

"HEATHER" (Sussex), H. T. WILKINS (Walton), J. MERRICK (Bristol), "STENNER" (Hants), B. M. D. (Harrow), D. P. (Wales).—Bees were affected with "I.O.W." disease.

B. M. BURGESS (Tenbury).—(1) "I.O.W." disease. (2) Extract all stores, and soak in a solution of one of the disinfectants named.

A. P. (S. Wales).—The bees were natives, and suffering from "I.O.W." disease.

W. KELSEY (Kent) and "CROFT OAK" (Leicester).—We failed to find disease in the bees sent, but the symptoms you describe point to "I.O.W." disease.

H. S. SMITH (Bristol).—The bees were too dry for diagnosis, but we think death was due to starvation.

QUEEN REARING APIARY.

ENRICO BOZZALLA.

ITALY CREVACUORE NOVARA

Pure bred prolific ITALIAN QUEENS	JUNE 10/6	JULY 10/6	AUGUST 9/6	SEPTEMBER 9/6

NUCLEI for RESTOCKING. Despite the enormous demand for my well-known queens I am open to supply a limited number of Nuclei on three English standard brood frames headed by 1919, purely mated, tested Italian queens with mature capped brood and ample stores—Price £5 15s. packed and delivered post free. Safe arrival guaranteed. Delivery during June and July in time for the English Honey Flow THUS ENSURING RAPID BUILDING UP with a minimum of feeding. Orders (which will be executed in rotation) should be sent with remittance to sole British Agent, **H. M. STICH, Riccartsbar Av., PAISLEY,** as soon as possible.

KEEP I.O.W. DISEASE AT BAY with pure ITALIANS.

Special Prepaid Advertisements.

One Penny per Word.

PRIVATE ADVERTISEMENTS.

MAY-JUNE DELIVERY.—A limited number of four-frame Nuclei, headed by 1918 Italian Queens, price £3 3s. each, carriage paid.—Box 9, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. o.19

WANTED, experienced Lady Bee-keeper to take charge of apiary. State full particulars and salary required.—GORDON, Wonham, Bampton, North Devon. p.64

FOR SALE, new W.B.C. Hives, second-hand Hives, Extractor, Ripener. Owner going abroad.—PEIRCE, Rosemount, Tudor Hill, Sutton Coldfield. p.65

WANTED, to rent (year's rent paid in advance), with option to buy, Cottage and about 5 acres, with fruit trees, suitable bees and poultry, within easy distance rail London.—Address, "C.," 53, Penwortham Road, Streatham, S.W.16.

WANTED, urgent, Carniolan Queen; also Italian. State price, age, and date can despatch.—WARNEFORD, Village Road, Enfield. p.67

NICE lot of 13 Belgian-Flemish Rabbits, three months old, 6s. 6d. each; also cross Doe in kindle to Belgian buck, 12s. 6d.; £5 the lot, or nearest offer.—BRUCE, Barmuckity, Elgin. p.69

FOR SALE, five Single-walled Hives, freshly painted, good condition. What offers?—E. BISSET, Broadwater, Worthing. p.68

WANTED, strong, healthy Stock, early April, without hive.—Knighton-on-Teme Vicarage, Tenbury, Worcs. p.70

TWO strong Stocks, Taylor's and Italian Hybrids, each on double brood chamber and comb (should make four stocks); three good W.B.C. Hives (two new), new Section Racks, Shallow Frames, Smoker, Veils; complete outfit £25. Would prefer sell outfit complete, purchaser to arrange removal, as owner going abroad this week.—Write, at once, BUTLER, 198, Hermon Hill, South Woodford, E.18. p.71

SUBSTANTIAL Second-hand Hives, newly painted, with two supers, £1; three supers, 25s.; "Wells'" two supers, 35s.; Excluders, 1s. 3d. Disease unknown.—40, Woodfield Grove, Patricroft. p.73

QUEENLESS HIVE.—Wanted, at once, Fertile Queen, or small Nucleus; not blacks.—State age, kind, and price of queen, SMITH, Cliffe Ashe, Idridgehay, Derbyshire. p.74

FOR SALE, or exchange for property in England (small holding), Market Garden, Small Fruit and Apiary, 3¾ acres, cottage, greenhouses, barn, bee houses, 18 colonies Italian Bees and equipment, ½ acre raspberries and black currants, etc., 4 years old, fertile soil, early tomato land; a money maker; splendid climate; near London and Toronto, situated in village of 800; low taxes.—Apply, GEO. TUDDENHAM, Lucan, Ontario. p.32

WANTED, to rent for one year, with option to buy, Cottage and about 4 acres of land suitable for fruit, bees, and poultry; if possible with accommodation for general stores or tea shop. Land must be sandy.—"F.," B.B.J. Office, 23, Bedford Street, W.C.2. p.34

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

DUTCH BEES.—Several consignments of Bees in original skeps imported direct from Holland.—For prices, etc., apply THE BEE FARM, Cumbernauld Station, Dumbartonshire. p.72

FOR some considerable time past I have been receiving inquiries for Stocks and Swarms of Bees. As, however, bee breeding has had to be discontinued during my absence abroad, I should be glad if those who have written would kindly take this as a reply to their letters, being unable to write to them separately during my short leave from overseas.—A. W. BOWEN, 2/Lt., R.A.S.C., Cheltenham.

BEES!—Expert advice offered for 2s. 6d. Apiaries inspected and put in proper order; charges moderate. Also a few empty Hives for sale.—Apply, DAVID HUNTER, Craighead, Abington, Lanarkshire. p.54

DUTCH BEES, 4-frame Nuclei, May and June delivery, also six Dutch-Italian Nuclei; £3 3s.; cash with orders; carriage paid.—SEALE, Hardumont, Oatlands Drive, Weybridge, Surrey. p.56

WOOD for Hive Making.—Empty munition boxes, 23 in. by 15 in. by 8 in., 1 in. planed boards, 1s. 6d. each, or 6s. 6d. cwt.—72, Norton Street, Hockley, Birmingham. p.58

STRICTLY BUSINESS.—Six packages Flavine, 6d.; "Intensive Bee-keeping," 6d.; a Japanned Sprayer, 5s.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. p.61

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

THE
British Bee-Keepers' Association.
Insure *now* against loss by damage done through bee stings. All particulars from
W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

IN WAR-TIME

The Nation's Food is of prime importance. The products of the Apiary, of Poultry and Farm Stock, of the Fruit and Vegetable Garden can be augmented. Buy your stock, sell the produce, through THE BAZAAR, EXCHANGE & MART Newspaper.
Get a Copy—Thursday and Saturday, 3d. The "Bazaar" publishes also practical handbooks by experts. Send for full catalogue, ———post free from———
WINDSOR HOUSE, Brams Buildings, LONDON, E.C.2

WATCH YOUR WATER SUPPLY.

A correspondent in a late issue of the B.B.J. states, "I am strongly of the opinion that the primary cause in the first onset of the disease ('I. of W.') making its appearance in this country lies in the polluted condition of our streams, which to my mind is a growing evil of late years, not only to insect life, but to the animal kingdom also." There is no doubt that the water supply is a frequent source of infection and it is surprising how many bee keepers fail to provide drinking fountains for their bees. Where this has been done, and the water medicated with "Bacterol," the advisability of such a precaution has been proved by the results obtained. As a general disinfectant and germ killer for bee keepers, General "Bacterol," is ideal. It is without stain, does not taint the honey, and most remarkable of all, the bees like it. Experts have proved over and over again its value in protecting and curing stocks of "Isle of Wight" Disease. No bee keeper should be without it.

DIRECTIONS FOR USING "BACTEROL" FOR "ISLE OF WIGHT" DISEASE.

Medicate each pint of Syrup with 1 teaspoon of General "Bacterol." Stir in when syrup is just warm or cold. **See that all stores of honey are removed before giving syrup.**

ALTERNATIVE METHOD.—Spray two or three times daily all crawlers on alighting board and in front of hive with a solution of 1 tablespoon of General "Bacterol" to 1 quart of water. Use a mist sprayer, obtainable from any bee appliance manufacturer, not an ordinary syringe.

A 5 per cent. solution (4 tablespoons to quart of water) sprayed over and inside the hives will disinfect any excreta and destroy all germs and parasites.

It is manufactured by "Bacterol," Limited, London, N., and may be obtained post free by sending P.O. for **2s. 6d.** for a half-pint bottle from either of the following addresses:

"THE BRITISH BEE JOURNAL," 23, Bedford Street, London, W.C. 2.

A. W. GAMAGE, Ltd., Holborn, E.C. 1.

JAMES LEE & SON, Ltd., George St., Uxbridge.

E. H. TAYLOR, Welwyn, Herts.

THE SERVICE FURNISHING SOCIETY, Ltd., 289-93, High Holborn, E.C. 1.

OR FROM

MENLEY & JAMES, Ltd., Menley House, Farringdon Road, London, E.C. 1.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . In a few days all signs of sickness had disappeared . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

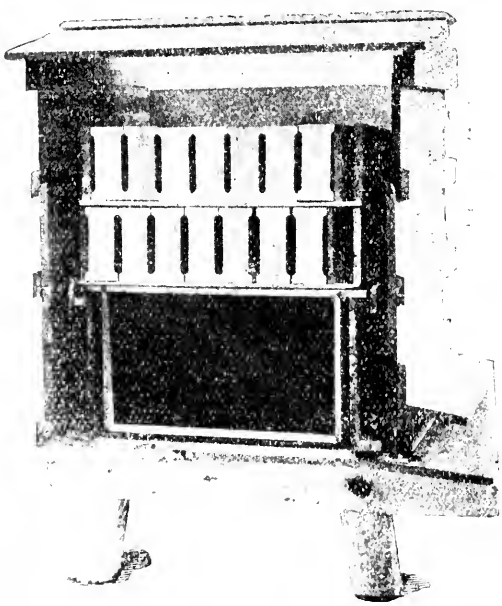
Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

NEARLY 50 YEARS ESTABLISHED.

KENT BEE HIVE WORKS.



The oldest establishment in the Kingdom wholly devoted to Bee Appliance Manufacture. W.B.C. Hive, as sketch (outside square cases). Brood Box (11 frame capacity), 2 supers (room for 3).

Painted, complete, as above £2 14 0

Fitted wired foundation ready for working... ... £3 16 0

Full List of everything connected with Bee-keeping.

S. J. BALDWIN,
The Apiary, Bromley, Kent.

British Bee-Keepers' Association.

CONVERSAZIONE.

This was held after the annual general meeting on March 20. Unfortunately, the stenographer who took the notes was taken ill directly afterwards, and has been unable to transcribe the notes, hence the delay in publishing.

At the close of the annual meeting over one hundred members and friends partook of an excellent tea, after which the conversazione commenced. So great was the attendance that a larger room than that originally engaged had to be requisitioned. Mr. W. F. Reid presided, and in opening the proceedings said they were pleased to have present at the meeting bee-keepers from America, Australia and New Zealand, to whom they tendered a hearty welcome. Also the splendid attendance of members and their friends was most gratifying, as it showed that the interest in bee-keeping had not only been maintained but increased during the past troublous times. No doubt Mr. Boyden, of the A. I. Root Co., of America, would like to say a few words. He therefore called upon him to do so.

Mr. Boyden: I had no knowledge of this meeting until I read of it in the BRITISH BEE JOURNAL, and really I think that it is most opportune for me that I could get here to-night and check notes with you as I would not be able to do in any other way. I have no message from the other side except one of good-will. I will take this opportunity to explain my visit. For a great many years we have enjoyed trading with Great Britain and her Colonies. As you know, that trade has been interrupted on account of the war. I am not here to sell or buy goods, but just to visit the bee-keeping fraternity and see what the conditions are over on this side. I am very happy to see you all, and I am sorry that I am not going to be here longer. I am going to France for a few days, then coming back in early April to spend another week or so here. I do not believe that I will have the time to say anything further at this moment. If any one of you is interested in any information I can give, I shall be happy to supply it at any time. I know you have a programme this evening: therefore I will not take up more of your time, but will stop at this. (Applause.)

Mr. Reid: We shall be very glad if Mr. Boyden, and the representatives from Australia and New Zealand, will take back a message from us that when any bee-keeper from those countries comes over here, if he will be good enough to let us know we shall be happy to meet him and do all we can to supply information that he may require, show him round, and make his visit as enjoyable as possible.

Mr. Judge was then called upon by the Chairman to open a discussion on "The Future Development of Bee-keeping," which he did as follows:—

Mr. Chairman, ladies and gentlemen,—Your Council invited me to address this meeting on the subject of "The Future Development of Bee-keeping." That is, of course, a very wide subject, and one that is really beyond the scope of the limited time at my disposal. I understand that the desire is not for me to read a paper, as has usually been the case at these functions, but rather to open a discussion on some phases of the subject chosen. For a number of years past I have studied the question and formulated a few ideas, and it was only with the object of laying these before you this evening that I accepted the invitation.

It appears to me that we have a number of problems to solve before we can expect any real development in bee-keeping, by reorganising and co-ordinating the work throughout the country. As you are aware, the British Bee-keepers' Association and the associations which are affiliated to it are organised on practically the same lines. In my opinion, that is not a good system to follow. We are labouring under the same conditions that have existed for quite a number of years, although efforts have been made in the past to remedy this state of affairs. I suggest that, if we are going to expand and develop to the greatest extent, we must endeavour by some means or other to get better representation from the various parts of the country on the Council of the central body. At present we are more or less centralised, and it is my opinion that we must try to decentralise, and also to ordain some sort of control for the whole organisation. I am aware that this is a very difficult proposition, but we in Kent have had some experience along that line, and our experience is that it is possible. I would venture to suggest that, to overcome the difficulty under which we are at present labouring, we divide the country into groups of counties or divisions; these again should be divided into subdivisions, and take the place of our ordinary county associations. I do not propose to go into details. My object is simply to open a discussion, and I assure you that there is a great deal in this subject to discuss and make suggestions and proposals thereon.

The arrangement for representation

from the affiliated associations that obtains at the present time makes it impossible for us to get the best results from our friends in the North and Midlands; we are conscious of it year by year. They cannot attend the Council meetings owing to the lack of time and the expense involved to come to London. If we could organise the groups of counties, or divisions of the country, and then the subdivisions as suggested, the latter could send their delegates to the former, and the former their delegates to the Council meetings of the Central Association, to attend to the business of the Association, to explain and support any measures that may be suggested by the particular organisation they represent. We know there are experienced practical bee-keepers in every part of the country, but at present the British Association has to be run mainly by those living comparatively near London.

It is to try and find some means of overcoming this difficulty that I suggest the plan of decentralisation. This, of course, means a more expensive organisation, but if the expenditure of funds is wisely and economically carried out it should give a stimulus that is not to be obtained by any other means. We should bring into the Association people who have valuable experience to give us the advantage of, and by their assistance create enthusiasm in others. If some such system could be adopted, it is possible that we might improve upon the present conditions. Also we could establish yearly a congress of bee-keepers, extending its sittings over several days. I am aware that the British Bee-keepers' Association has for many years past organised a congress, but the limit of time devoted to it in hours, instead of days, reduces the advantages to be gained by full discussion on each item of the agenda very materially.

We know there are difficulties, and it may not be possible to carry out the idea, but it is worth discussing, when, perhaps, we may hear other ideas on the subject. It seems to me that the question of getting bee-keepers together is a vital one for the success of co-ordination, especially in the case of voluntary workers. There are other organisations at the present time which are moving, and it would seem that this Association and those affiliated to it ought to try and evolve a scheme to work together, so as to get the maximum results from their efforts. We certainly need the co-operation of all the associations concerned, which at the present time is lacking, although the majority are absolutely loyal to the parent Association. We want to get everybody loyal, so that the work of the "British" will be facilitated and enable it to do much more work than it has done in the past. It is only by devising some scheme along the lines indicated that I think we shall obtain the greatest development.

The functions of such an object should be co-ordination of effort. At present the county and district associations have a tendency to work independently and by different methods. We must find some means of keeping them all together, of fixing a policy and getting that policy developed. If we can do this, I am certain it will redound to our credit and to the credit of British bee-keeping. We have to a certain extent wandered in the past; now we must rectify errors and improve upon the good work we have already accomplished. These remarks must not be taken as carping criticism, but are made with the object of obtaining some instructive criticism and helpful hints from others, which will enable further improvement to be attained.

We should also have a permanent establishment for the training of bee-keepers and teachers of bee-keeping. We have at present certain organisations who deal with this matter, but there is much room for improvement in this direction. We want efficient instructors—instructors who have confidence and assurance, together with that complete knowledge and experience which is so necessary to help those who come to them for guidance. At present there is a great lack of provision for training this class of people. Our literature, too, could be developed and expanded, and I think the Association could help in many ways to encourage and develop it.

The financial question is, of course, a difficult one, and I do not propose now to offer a solution of this. As I have already stated, a decentralised organisation is more expensive to work than a centralised one. The means of providing and expending those funds needs careful and considered attention.

We need also some statistics. At present we know very little of what bee-keepers are doing, or what is the monetary value of our industry throughout the country. The Food Production Department of the Board of Agriculture has made an effort to obtain statistics, but to what extent they have been completed I do not know. We do not at present know exactly how many stocks of bees are kept, how many have been lost through disease, or what is the average amount of honey produced yearly in this country, or how much further we could encourage and increase the keeping of bees. There is great scope, too, for propaganda work, and it is for the Association, together with those affiliated to it, to get this work in hand at once.

The re-stocking scheme which has been

introduced, and assisted by the Government, is a movement that I think we must look to for a great measure of our success in the future. Another matter which to my mind is a vital one is the provision of a supply of bee appliances at a reasonable price.

We know that since 1914 the question of supplies has been practically shut down. Before expansion is possible we must provide not only bees, but the necessary appliances, so that those who contemplate commencing may have the means to do so. As you are probably aware, we started four years ago in Kent the original re-stocking scheme in this country. This has been an unqualified success, and we have now a very large bee population. Although there is still disease in the county, I am pleased with the results of our re-stocking scheme. It was an experimental one, and it has enabled those who had lost their bees through disease in the first instance to fill up their empty hives. Now nuclei are being supplied in the ordinary way to those desiring to commence, or to those who wish to increase the number of their existing stocks. This shows that the re-stocking problem is one that can be settled very quickly. The details of cost can be worked out and met accordingly, and associations should certainly take up this scheme. What will apply to one does not apply to another; therefore it will be for each one to follow the particular line which is most suitable for their district.

The question of legislation has already been discussed very thoroughly this afternoon, and statements have been made which show that the Council of the British Bee-keepers' Association have done an enormous amount of work in endeavouring to obtain legislation for the protection of bee-keeping, but up to the present without success. I hope that in the near future these efforts will be crowned with success. These questions take time, and the Government have at present other work more important than legislating for bee diseases to occupy their attention. I would like to know, as a matter of information, whether we can obtain in any way some sort of insurance against loss by disease. I do not think that insurance of this kind has been dealt with, but think it might be possible.

I will not take up more time, as the longer I speak the less time there will be for discussion, and it is the discussion that we are looking to for valuable criticism and suggestions. (Applause.)

Mr. Reid: I am sure we are very much obliged to Mr. Judge for his opening suggestions. There is matter enough in them to occupy us for several afternoons, but our time is short, so I would ask those who wish to speak to do so at once and as briefly as possible.

A Dorset Yarn.

A week of strong wind, mostly from the north. Bees have not been able to get far from the hives; happy is the man who has plenty of gooseberries close to his apiary, we find bees in crowds on those close, but scarcely any on the far fields; plums will have to depend on wind pollination, at least the very early ones, as there are some that are not yet open, early blooming pears, as Jargonelle, Louise Bonne of Jersey, and Beurré Diel have up to now had scarcely a bee on them, though the perfume from Jargonelle is just now delightful. The nectar must be abundant in them, but it is gooseberries that have the bees, flowers insignificant in themselves, but abounding in sweets so seductive to bees; great bumble bees, with their baskets laden with pollen, from early morn till dark going over the lines for food for their young brood.

The first queen wasp was seen this last week, also on the gooseberries. It was too quick for me to catch, they seem to know that every man's hand is against them. How swift of flight they are, how different to the big bumble bee. These yellow-coated thieves are a great pest to the fruit grower and bee-keeper, it is well a ransom is put on each one in May. It is wonderful how the different insects are enabled to carry on their race. All late hatched larvæ of wasps are fertile females, which hybernate till warm weather, and each starts a colony by laying a few eggs and feeding the young grubs. Then these enlarge the nest, and more eggs are laid, and soon the colony becomes strong. Why these are sent to be a plague to man I cannot see; certainly they act as scavengers to some extent, they search the gooseberries for eggs of the sawfly that defoliates the bushes in summer; that is one good trait in their character, but it is not enough to outset the harm they do to the bees in later summer and autumn.

Our bees are in crowds over the tops of sections, but they are not filling them, though some have them fully drawn out. These were only partly filled last year, and were given them back to clean out; but it is the weather that is against them. There are such crowds of them, they would be bringing in a great deal if it was favourable. I notice many have the downy appearance of young bees, but have not yet seen a drone, they must be developed by this time.

How pretty the Italians look under the covering of glass; the great heat that is given off by so many bees, I suppose, brings them up over the sections. The shiny appearance of the older bees can be easily differentiated. Age seems to rob

them of the downy covering of the body, especially on the abdomen.

Letters still come to the farm through the JOURNAL office from bee-keepers who have "made their pile" near the busy centres of industry, and who now want to come south to end their lives in the county of "milk and honey." Some from Scotland, from Lancashire, and Cheshire, the lure of the land and their beloved bees; health before money, better a strong, healthy carcase than a fragile man, even though his brain is highly developed.

The Food Production Department has placed our farm on a list for the training of demobilised men and officers from the Army. One stipulation on the form returned was "not to send any slackers, as our work was hard and strenuous." No undesirables and work-shys can find a place on the land, it is work, or go under. In my opinion that is what the Government should do with all who are afraid of labour, plant them on the soil to either work or go short of food, that would be an incentive to work. Too many luxuries from childhood has made weaklings and sluggards. Man would soon find out that the soil has many thousands of bacteria, minute organisms that, given facilities to work, would be building up plant food for the roots of all plants to assimilate, and so bring to perfection the finest fruits of the earth. We who keep bees know what they will do for us if given the frames and sections to fill, and we should be very unwise not to give them plenty to do; the same follows with the land. Thousands of organisms in the soil are working, "without money and without price," converting insoluble substances into valuable foods, that build up the structure of plant life, and so give us the best results. Hunger would soon show the "work-shy" that the land will give him plenty; would soon show him that all these millions of organisms would be helping him, if he does his share in the business; keep the surface loosened with the cultivator; add to the soil that which is lacking, then all goes well, all the fruits of the earth, are for the service of man.

Some districts of England have all that plant life requires, some parts are rich in two out of the three necessary plant foods. The Vale of Evesham is rich in potassic salts; this has always been one of the gardens of promise, rich in its orchards of plums and apples, here grows the large acreage of asparagus, because it requires potash to bring it to perfection; the old monks when they first started the rich lands to support the monasteries, were certainly very wise to choose out such fertile lands for their support. Bee-keepers write to me from that district of the success with the land and their bees, even though they have to live a long way from their holding they have mostly a bicycle, and are at their holding until dark. The summer, with the bees and fruit, is a strenuous but a delightful time; who would want to stay inside the house, only to sleep at night; even that is not necessary in summer. I have slept in the open air near strawberries during the strawberry season with only a mackintosh covering, on a bed of clean barley straw that was left over after the strawberries were littered down to keep them clean. A bath and breakfast when the staff has come and one is better for sleeping in the open air.

We find the birds are most destructive in early morning; now that our acreage has increased, we do not grow so many strawberries, though they are very productive.

I am afraid, Mr. Editor, I have run away from the subject of bees pretty much; you must clip out what is not suitable, I do not want to give offence to your intelligent readers. The socialist is only letting off surplus gas, before bath, and bed on the Saturday night. The gospel of work is all that I want to preach. Life is not an empty dream. "Life is real, life is earnest," so wrote Longfellow, and as I have written before in the JOURNAL two years since, the grandson of the famous statesman, Gladstone, in the last letter to his mother wrote, "It is not the length of life that counts, but what we do in that life."

J. J. KETTLE.

Bee-Keepers' Meeting at Hounslow.

A meeting will be held on Saturday, May 3, at 4.30 p.m., by kind permission of the Vicar, at St. Stephen's Parish Room, Whitton Road, Hounslow, near the L. & S.W.R. Station. The object of the meeting is to form a local Bee-keepers' Association. The committee appointed to prepare a scheme will submit a draft of proposed rules and put forward a suggestion that the Association shall be named the Twickenham and Thames Valley Bee-keepers' Association. Bee-keepers wishing to join the above will be welcome at the meeting, or, if unable to be present, should send in their names to the hon. sec., pro tem., Mr. C. D. Burnet, Seton, 30, Cole Park Road, Twickenham.

Beverley Bee Keepers.

An interesting lecture was given in Beverley on April 10 by the Rev. H. T. Hutchinson for the Yorkshire Council of

Agricultural Education in connection with the Government scheme for the encouragement of bee-keeping—and some encouragement and co-operative effort is needed, for nearly all bees within three or four miles of the town have been destroyed by "Isle of Wight" disease. It was decided to form a Bee-keepers' Association for Beverley and district, and the first meeting will be called in May, when it is hoped that all bee-keepers in the district will give their support by attendance or letter. The secretary will be Mr. T. T. Taylor, 137, Keldgate, Beverley.—*Communicated.*

Devon Bee-Keepers' Association.

ANNUAL MEETING.

The Devon Bee-keepers' Association met at the Guildhall, Exeter, Col. H. J. O. Walker (Budleigh Salterton) presiding.

The Secretary (Mr. R. W. Furse) presented the annual report of the Council, which stated that the balance-sheet was favourable. The Committee had hoped to see the last of the "Isle of Wight" disease, but once more found on the advance of winter many stocks succumbing to the disease. With regard to prices it had been a record year. Those fortunate enough to possess bees received a handsome return, single hives having yielded £25 worth of honey. In an endeavour to meet the need for bees and to ensure a supply that is largely immune from disease, the Council had, in conjunction with the Food Production Committee, inaugurated a re-stocking scheme for Devon, by means of which it was hoped to supply bees, in the first instance to subscribers to the scheme of £1 shares. For this purpose it was intended to import a limited number of stocks from Holland, and queens from Italy. If successful they would like to establish the scheme permanently and to have a model apiary for experimental work and the instruction of bee-keepers.

The Chairman moved the adoption of the report, and spoke with considerable hope of the policy of importing stocks from Holland and queen bees from Italy. He did not know whether it would be possible to hold a show this year; but they had £8 15s. in hand towards a prize fund.

It was resolved to invite the Right Hon. Francis Acland to accept the presidency of the Association, in succession to his uncle. Mr. R. W. Furse accepted office as hon. secretary. Miss Marion Pittis (Uplyme) was re-elected hon. treasurer, and Mr. W. T. Godfrey hon. auditor. The old members of the Council (Messrs. Blake, Burgess, Pabey, and Shoemack) were re-elected, and the following were added:—Mrs. Oakes (Exeter), Mrs Martin (Lustleigh), Rev. G. Apthorp (Rewe), Major Custance (Broadclyst), Dr. Steele-Perkins (Honiton), and Mr. W. H. Edwards (Pinhoe).

RESTOCKING SCHEME.

A discussion arose as to the restocking scheme, which is to be taken over by the Association from the Food Production County Bee Committee. Mr. Furse said eight stocks had been ordered, and had arrived from Holland in good condition, and the queens would come from Italy in May. The cost was to be covered by a co-operative society of bee-keepers, and 67 £1 shares had been taken up by 51 shareholders. The first allocation of the imported bees would be made by ballot. It was hoped to turn the eight imported stocks into 30 or 40 more stocks during the season, and that all the shareholders would have their stocks this year. They owed a great debt to Mrs. Coleridge and the County Bee Committee for the successful initiation of the scheme.

Messrs. Furse and A. C. Blake were reappointed delegates to the British Bee-keepers' Association, and it was resolved to support the Association in urging the Government to take legislative measures to prevent the extension of bee disease, the opinion being expressed that compulsory notification of disease was essential.

Bee-Keeping in Durham County.

In response to a circular letter sent out to the bee-keepers in Durham County by John Watson Egglestone, Bishop Auckland, for the purpose of resuscitating the Durham County Bee-keepers' Association, a meeting was held in the Lecture Hall of the Central P.M. Church, Cockton Hill, Bishop Auckland, on March 29, 1919. The meeting was of a very representative character. Among those present were noticed the following:—Messrs. H. Harmer, Sunniside, Whickham; J. W. Hutchinson, Pelton; H. J. King, Stockton; F. Hansom, Eaglescliffe; R. Bell, Stanhope; Arthur Wrightson, Browney Colliery; J. W. Wilson, Etherley, Bishop Auckland; Mrs. Holliday, The Vicarage, Hamsterley; Mrs. C. H. Dent, Snow Hall, Gainford; Miss Rose Headlam, Whorton, Barnard Castle; Messrs. Joseph Brassell, Ushaw Moor; Isaac Lee, Pelton; J. H. Nicholson and the Rev. W. H. McLean, Heighington; J. Short, Darlington; J. A. L. Robson (Secretary for Higher Education), Durham; J. Smith, Durham; Nurse Wood, E. T. Gardiner, and J. W. Egglestone, Bishop Auckland. There was quite a large

number of letters expressing regret at inability to attend received. The chair was occupied by J. N. Kidd, Esq., Stocksfield-on-Tyne, punctually at 4 p.m. The Chairman explained that the active work of the Association had been postponed (by arrangement) until after the war; the following report was read by Mr. J. W. Egglestone:—

"Since the last general annual meeting was held in this town, there have been very many changes regarding the status of bee-keeping in this county. Very many, who were supporters, and great bee-enthusiasts, have joined the great majority. I will briefly mention one or two: Our late President, Lord Barnard, and the late Secretary, Mr. G. G. Robson. The latter did valiant work for this Association in years past.

"The dreaded 'Isle of Wight' disease is still prevalent in this county, and every effort by bee-keepers and scientists to eradicate it have, so far as I can learn, failed to prescribe a permanent cure for us up to the present time. In face of this, it is very gratifying to learn from the diagrams and register which I have prepared for this meeting, that 105 persons have registered with the scheme for bee-food, and of this number, 57 only have bees, 169 colonies being in bar-frame hives, three in skeps, and 14 in boxes, making a total of 186 hives. There are some who have not registered yet. I have reported other 24 persons owning 55 hives, making a total of 241 hives reported to date."

The election of officers for the ensuing year resulted as follows:—

President: Sir Thomas Wrightson, Neasham Hall, Darlington.

Vice-Presidents: J. A. L. Robson, Esq., Shire Hall, Durham; J. T. Proud, Esq., Dellwood, Bishop Auckland; J. S. Douglas, Esq., Bearpark, Durham; Captain H. Stobart, Red House, Etherley, Bishop Auckland.

Hon. Treasurer: Mrs. Stobart, Witton Tower, Witton-le-Wear.

Hon. Secretary: John Watson Eggle stone.

Executive Committee: Messrs. H. Hamer, Whickham; F. Hansom, Eaglescliffe; H. J. King, Stockton; J. Deighton Reed, C.C. Blackhill; J. Brassell, Ushaw Moor; J. Short, Darlington; J. N. Kidd, Stocksfield; E. T. Gardiner, Bishop Auckland; S. Giles, South Shields; Revd. W. H. McLean, Heighington, with power to co-opt up to, but not exceeding, 18.

A strong appeal having been made by the Secretary nearly every one present enrolled as members. The annual subscription for members being fixed at two shillings and sixpence and upwards.

Mr. J. N. Kidd then opened the social gathering by giving a very instructive and lucid paper on his proposed method to kill the "Isle of Wight" disease by manipulations, this method he intends to try this season. A very interesting and instructive discussion followed. The Secretary is willing at all times to advise novices, or bee-keepers in general if in difficulties, on receipt of stamped addressed envelope to his address.

Persons wishing to enrol as members kindly communicate with the Secretary:—

JOHN WATSON EGGLESTONE,
Firbeck House,
Hutton Avenue,
Cockton Hill,
Bishop Auckland.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

The Eradication of Foul Brood.

[9901] The closing paragraph in Dr. Abushâdy's remarks in the JOURNAL of April 17 on "The Eradication of Foul Brood," and his request for any constructive hints or remarks prompt me to write and suggest that he might consider the action of "Vitamines." They might provide a rich field for research, with regard to the stamina of the bee and "Isle of Wight" disease. I am old enough to remember how helpless the Indian doctors used to be in treating serious cases of Beri Beri, and Spru, or Hill Diarrhœa. Now that was before Vitamines were known, or recognised. Now the benefit of Vitamines and the use of unpolished rice has been proved in the treatment of Beri Beri.

I recall that cases of Spru were successfully treated with pint doses of fresh strawberries. At that time Vitamines were not thought of, and it was suggested that it was the large proportion of iron contained in the fruit, which was beneficial, but perhaps a liberal ration of spring onions, or lemons, would have had the same beneficial effect, for it has since been found that the benefit obtained from

fresh lemon, or lime juice, when treating scurvy, is due to the Vitamines present, and not to the acid, as was at one time supposed.

Is it not possible that feeding so much with sugar which is presumably Vitamine free instead of feeding with honey which contains Vitamines, has induced a kind of Beri Beri disease in bees, which we know as "Isle of Wight" disease?

Is it not possible that the Vitamines act like a catalytic? The fact that so little is known about Vitamines, and whether they act like a catalytic, makes research in that direction all the more promising.

I cannot close without expressing my hearty thanks for the very interesting "Yarns" from Dorset, by friend Kettle, likewise my thanks and appreciation to Dr. Abushady for his most interesting contributions.

Wishing the BEE JOURNAL every success in the future, and a long run of the present interesting contributions. — R. ROBERTSON, Dunfermline.

A Case for Legislation.

[9902] A few weeks ago, I paid a visit to a small apiary in which the bees had died out, to ascertain the cause of death. Without opening these hives, the excreta half-way up the hives and around the entrances revealed the fact, "Isle of Wight" disease. My advice to this bee-keeper was to close up the hives entirely, to prevent healthy bees gaining an entrance. I regret to say my request was refused. I suppose they are to be left as "swarm catchers." This is only another one out of the many cases published in these columns supporting Government legislation. Can one imagine any Government re-stocking scheme being a success under the circumstances described above? What is required is Government legislation to protect this re-stocking scheme, if it is to be a success, for we know that all bees are liable to contract this disease, although some may seem to possess a certain amount of immunity, and unless we can have Government legislation to compel careless bee-keepers to work for the safety of the craft, then, to my mind, the Government re-stocking scheme is doomed to failure, it is like setting the cart before the horse. How can any bee-keeper canvass new beginners with a view to extending our craft, especially these days, when we have to pay such an exorbitant price for our bees? I may say, here, this careless exposure of diseased hives is a sore point with me, when one has been spraying with drugs for prevention, and I am looking forward to putting my signature underneath the long list of names of earnest bee-keepers, with a view to urging on the Government to pass this much-desired legislation. Then, in the words of Longfellow, one "seeing, may take heart again."—P. LYTHGOE, Padgate, Warrington, Lancashire.

Bees "Dancing" on the Brood.

[9903] In regard to the "Brood-Hatching Chamber," of which Dr. Abushady writes, I should like to ask, is it fully determined that a certain temperature is all that is required for the welfare of the brood, and if that is the case, what is the meaning, cause or explanation of that peculiar action of bees, which I call "dancing" on the brood?

The bees will be moving leisurely over the brood, when suddenly one of them seems to take a firm grip on the surface of the brood, and begin violently motioning its body towards and from the brood. This motion lasts some little time; the bee seems to exert all its force in the action, and I feel sure it is done with some purpose.

My own speculation on this curious phase of bee activity is that it is a method of exciting vitality, or shall we say interest, in the brood beneath. To put it another way, a means of combating inanition in the brood. The point is, that if there is any such purpose, the separation of the brood from its attendant bees would not be advisable, and it is therefore a point against the use of the brood-hatching chamber.

I send this to you, however, not so much as a contention against the brood-hatching chamber, but to draw forth the observations and explanations of others on this action of the bees, which to me is somewhat mysterious.

W. L. JEFFERSON.

Spring Feeding and "Isle of Wight" Disease.

[9904] For years past, when spring feeding has been necessary, either for stimulating or otherwise, I have used soft candy as per following recipe:—For a feeder I use a shallow frame, with a strip of thin wood 4 by 14, nailed on each side, leaving an inch at top for entrance of bees; the candy is put in, pressed firmly down, and then placed next the bees, after removing unnecessary combs. It is much cleaner and handier, and the bees take it more readily than syrup; it also does away with holes in quilt, etc.

Both the recipe and candy have been submitted to prominent bee-keepers, who pronounce it excellent, and advised that

I should publish it for the benefit of others, hence my communication.

Recipe: 7 lbs. castor sugar, 2 tablespoonfuls of pea flour, well mixed; 1 lb. smooth granulated honey, 4 ozs. water mixed to a creamy thickness, then add to sugar, and thoroughly mix by pressing through the hands.

In one of my out-apiaries two hives were affected with "I.O.W." disease, and, not being prejudiced, thought I would try "Yadil." I therefore used 4 ozs. of it, instead of water, for making the candy. The result was certainly very satisfactory and better than I expected.

If the foregoing should prove to the advantage of others, my object will have been attained.

W. J. GIBBS,
84, Gillygate, York.

Overworked Queens and Loss of Stamina.

Although "Isle of Wight" disease has not yet been properly analysed, and no one can definitely say what it is, yet the concensus of opinion certainly points to it resulting from a weakened condition of the bee, that is the individual bee, not the colony. Whether "Isle of Wight" disease results directly from this state, or merely takes advantage of it, must be left for others to decide. In the meanwhile we can profitably look for the cause of a weakened constitution.

The question is then: Has anything occurred previous to the visitation of "Isle of Wight" disease that could have weakened the race?

Many have wondered why this disease was not with us (or at least not so vividly before us) until 1902, and have looked for the reason in some new departure in bee-keeping methods, blaming the use of frame hives instead of skeps, foundations for not utilising their wax-making organs, feeding syrup, wood instead of straw, and a host of others, many of them totally illogical, yet, so far as I know, nobody has ever taken pity on the unfortunate queen, who, being not overblest with intelligence, has gone on vainly trying to keep pace with the accumulation of man's modern methods, until we can point with pride to her ability to lay 3,000 eggs in 24 hours (1 in 29 sec.).

Modern methods, when successful would supply fresh frames of comb to be filled, keeping a willing queen always at work. Now, can any sane man suggest that this is good, either for the queen or the progeny? So far as the queen is concerned, the results are so very apparent that bee-keepers do already recognise the evil, and remedy it by supplying fresh queens yearly, etc.; but with the progeny the results are not so evident, or at least the cause and effect are not so strikingly connected, yet I believe it to be a fact, and suggest it for the consideration of others, that its result is that loss of stamina which makes our bees fall easy victims to disease when the opportunity occurs.

In all animals it is recognised as a fault, and care taken not to overtax the natural powers of reproduction, yet with bees all our efforts for years have tended the other way; also, the queens willing to respond to forcing were the ones selected to breed future queens, thereby perpetuating the weakened race. This is all very different from the days of the skep, when a queen would go on laying to suit herself, slow, easy and comfortable, until such time as the combs, getting full of honey, she wanted more room, when the bees swarmed.

I am not suggesting going back to the skep, but if we decide that such forcing the queen is an evil, it is easy to devise some system of management that will not force her, and yet provide a huge population at the right time.—THOS. F. COBB.

Hive Roofs.

[9906] I was pleased to read (9895) on roofs. I am interested in them, as being one of the most important parts of the hive. I have experimented for thirty years with various roofs, but the one that suits me best is a flat roof, with top 2 ft. by 2 ft., framed on 5½-in. deep supports. The roof can be arranged to overlap the hive as desired. The wood top is covered with zinc. A spout is formed over the front of the hive by bending the zinc over an iron bar, to give it the necessary shape. I have had zinc tops in use for over twenty years. I am now giving Pluvex a turn to see how it suits me. It is very nice material to work. I should be glad to know from anyone who has used it, as to its durability. I, like (9895), believe in a heavy roof. To see bricks and ropes embracing a hive would be very objectionable to me. Still, they are useful as a make-shift. My zinc roofs weigh 12 lbs.

The advantages of a flat roof are:—(1) Quickly and easily made; (2) a table every 3 ft. on which to place the top which is being removed. The table is not blocked by placing another roof upon it, as it also forms a table itself. There is no thinking, "Where shall I put this roof?" no backache in placing it on the ground. (3) Absolutely weather proof. (4) Impossible for wind to remove, if a hole is made through sides of roof into hive case, and a wire pin slipped in. The pin should be attached to a chain. In my apiary this extra precaution is not necessary.

My idea is that everything about the apiary should be as perfect as possible, to enable quick manipulation. On April 8 I manipulated eight of my hives, put in combs of honey where required, and inspected hives right side and left, and not a single bee attempted to sting me. I did not smoke the bees or use carbolic.

I use wood tops, divided into three parts $5\frac{1}{4}$, 6 and $5\frac{1}{4}$ in. wide. The centre piece has an inch hole in it. The tops have fillets $\frac{1}{4}$ in. deep nailed on to provide a bee-space all over the frames. I have not used a sheet for over twenty-five years, as I regard them as an abomination. Tearing them off naturally irritates the unfortunate bees, whereas the parts of the wood top can easily be removed with the adhering bees, and gently placed in front of hive for the bees to run home, which they quickly do. In warm weather the least lateral movement frees the top, without in the least annoying the bees. The pieces of the top are, of course, placed parallel with the frames, so that a partial inspection of the hive may be obtained by removing one division of the top only. My supers have glass tops. I do all I can to keep on affectionate terms with my bees, and they requite my affection in a wonderful manner. I never use smoke, except when absolutely necessary, or to guide the bees where I want them to go. My hives are all double walled. Outside case measures 21 in. square, hence roof will fit anyway. All parts of hive are loose, and all standardised. The brood chamber can be lifted out instantly, and placed in a fresh outside case. I have always many jobs waiting to be done, so with me everything must work perfectly, or it has to go to the scrap heap. I should like to hear if any bee-keeper has experimented with a direct entrance to "sky-scraping" supers. For two years I have tried an inch rubber pipe passing through outside case. The bees make but little use of it, but it is useful as a ventilator in warm weather, and can be plugged in a second when desirable.—R. T. SHEA, Shoeburyness.

Damp Winds and "Isle of Wight" Disease.

[9907] Since the "Isle of Wight" disease first showed itself in this country it is interesting to note that in nearly all cases of "lost" bees it is at once put down to "Isle of Wight" disease, when as a matter of fact this malady is very difficult to diagnose, requiring the aid of a bacteriologist and a powerful microscope, and cannot even then be detected in the case of bees which have been dead some hours. It has recently been proved in America that bee paralysis is often caused through their food becoming sour, and further investigation will probably show that this is the cause, if not of "Isle of Wight" disease itself, at least of it spreading, through the low vitality of the bees. In any case, I feel sure most of our bee losses are caused through (1) bad hives, (2) bad feeding, (3) bad ventilation. I need not enlarge upon the first cause except to say it is quite an exception to find a real weatherproof hive in use, though the majority may have been so before their second season. In any case, the manufacture of cheap, bad hives should be prevented by authority. No. 2, bad feeding, is largely due to bee-keepers waiting too long before substituting sugar syrup for the honey they have taken from the bees. When autumn feeding is put off after the middle of September, cold, damp weather prevents the bees evaporating sufficient moisture from the "sugar honey" to ripen it, and probably a good deal is consequently left unsealed. As honey absorbs moisture, it soon goes sour, and consequently paralysis is noticed when the bees first show themselves early in the year. In this connection it is well to point out that *ample* sugar syrup should be given early in September; probably 20 lbs. of sugar in most cases would not be excessive if the outside combs are empty, as it is most detrimental to bees to give them cakes of candy till April, as they cannot digest it without water, and for this they must fly out of their hives.

On the subject of ventilation, it is essential that (given a weatherproof hive) good warm quilts should be laid on the brood chamber, carefully pressed round the sides of the hive to prevent any draught passing through vertically, and if porous quilts are used (not American cloth) a 3-in. entrance may be left to advantage, as bees love dry air. If bee-keepers would think of dry east winds and damp west winds, instead of cold and warm respectively, we should find more hives "exposed" to the north and east winds (with breakwinds, of course), and less dampness in the hives, less soured food, less paralysis, and generally a higher vitality amongst the bees. A strong colony of well hived, well fed bees will always manage to keep warm during a cold east wind, but will not be able to keep themselves dry when the quilts and combs are moist through the damp south and west winds.—A. F. GRAY.

Queens Mating inside the Hive.

[8066] I notice in your last issue that Dr. Abushady is speaking about experimenting with a virgin queen for the purpose of mating, confined to the hive in his brood-hatching chamber with drones and young bees.

So far as the drone is concerned, this is a physical impossibility; the queen can only be mated on the wing.

I refer Dr. Abushady to Cowan's "The Honey Bee," p. 130, and I presume Mr. Cowan would be considered an authority on the anatomy of the bee. I hope Dr. Abushady will not consider this destructive criticism, as it may help to save waste of time that could be put to better use.

F. L. W.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 11 and 12, at Truro.—Royal Cornwall Show. Five Open Classes for Honey of any year. Schedules from Miss Alac Buck, Bosvigo, Truro.

June 24 to June 28, at Cardiff.—Royal Agricultural Society's Show, Bee and Honey Section, under the direction of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from The Secretary, 23, Bedford Street, Strand, W.C.2. **Entries close Monday, May 26.**

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

24 SUPER BOXES, machine made, 3 for 3s. 6d.; 1 gross Standard Frames, 1 gross Shallow Frames, new, dovetailed, in flat, 1s. 4d. per dozen; 36 Bottle Feeders, 3 for 2s. 6d.; all carriage forward.—HEATON, Eastview, Methwold, Norfolk. q.1

WANTED, Simmins' double Conqueror Hive.—Particulars to LYTHGOE, 23, Clayfield Road, Scunthorpe. q.2

WANTED, 3-frame Nuclei, without queens, early in May.—COLLINS, Bracken Lea, Streetly Lane, Four Oaks. q.3

WANTED, strong, healthy Stock, 1918 Queen, early May; Italian preferred. — WARD, Church Road, West Kirby. q.4

REAL good Billy Goat, 2½ years, docile, 25s.—APPLETON, Lodge Farm, Thurmaston, Leicester. q.5

ONE GROSS Granulated Clover Honey, in 1-lb. screw-cap jars, 20s. dozen; also two 56-lbs. tins, at 75s. tin.—ROFFEY, Simla, Selsdon Road, Croydon. q.6

WANTED, at once, Fertile Queen; 1918 preferred.—TROTT, Broom Hill, Stapleton, Bristol. q.7

FOR SALE, contents of Apiary, including two splendid stocks Hybrids, free from disease, nine Hives, Extractor, many other accessories; £15, or would separate. Birmingham district.—Box 15, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. q.8

FERTILE QUEEN wanted at once, or small Nucleus. State price and date can despatch.—SMITH, 508, City Road, Sheffield. q.9

WHAT OFFERS?—500 Lewis's snow-white Sections, 4¼ by 4¼ by 2, open four sides, split top, in original package.—19, Albert Street, St. Ebbe, Oxford. q.10

COWAN EXTRACTOR wanted, with reverse motion, Honey Ripener, and Wax Extractor; must be perfect. State lowest price.—D. M. C., Finmere House Cottage, Finmere, Buckingham. q.11

STOCKS, or Nuclei, with 1918 Italian or Hybrid Queen, wanted at once; also Simmins' Conqueror Hive.—Particulars and price to D. M. C., Finmere House Cottage, Finmere, Buckingham. q.12

OUT APIARY, 100 yards Danzey Station, G.W.R., Warwickshire. — Twelve Hives, W.B.C. type, each three storeys; about 200 drawn-out Combs, Excluders, Smokers, other accessories. Stand rented £2 yearly, including large store room. Splendid district. Inspection invited. Owner leaving neighbourhood. What offers for whole? Will sell hives, with two brood chambers and shallow lift, £1 each, carriage forward; good as new.—PURSALL, Hill Top, West Bromwich. q.13

FOR SALE, 10 good Hives, calico roofs, with lifts, crates, frames, and ends.—"The Gables," Shepherdswell, near Dover. q.14

WANTED, early Swarm and Nuclei; healthy.—MORELAND, 79, Birkhall Road, Catford, London. q.15

THE BEE-KEEPERS' RESEARCH UNION require gifts of Diseased Bees for experimental purposes.—Particulars, in first instance, to PEIRCE, Tudor Hill, Sutton Coldfield. q.16

TWO W.B.C. Boxes of Shallow Frames and ends, new, 5s. 6d. each, carriage 1s.; 10 Shallow Frames, wired foundation, 9s. 6d.—W. WOODS, Normandy, near Guildford. q.17

FOR the best short criticism sent in by June 15 by any subscriber to "Let the Bees Tell You" we offer as reward a Penna queen, direct from Bologna, July delivery.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.20

QUEEN, 1918 Italian, required.—JAQUES, 66, Grove Road, Wanstead, E.11. q.22

MAY-JUNE DELIVERY.—A limited number of four-frame Nuclei, headed by 1918 Italian Queens, price £3 3s. each, carriage paid.—Box 9, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. q.19

FOR SALE, or exchange for property in England (small holding), Market Garden, Small Fruit and Apiary, 3¾ acres, cottage, greenhouses, barn, bee houses, 18 colonies Italian Bees and equipment, ½ acre raspberries and black currants, etc., 4 years old, fertile soil, early tomato land; a money maker; splendid climate; near London and Toronto, situated in village of 800; low taxes.—Apply, GEO. TUDDENHAM, Lucan, Ontario. p.32

WANTED, to rent for one year, with option to buy, Cottage and about 4 acres of land suitable for fruit, bees, and poultry; if possible with accommodation for general stores or tea shop. Land must be sandy.—"F.," B.B.J. Office, 23, Bedford Street, W.C.2. p.34

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

1919 IMPORTED Golden Italian Fertile Queens.—Orders booked and executed in rotation. Regular supplies throughout the season. Price 14s. 6d.; specially selected, 17s. 6d. Cash terms. Stamp for reply.—GOODARE, New Cross, Wednesfield. q.21

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

GET-A-HUSTLE-ON.—To B. and millions of B's if you rear queens and use our right up-to-date Appliances. Kat-a-log free.—MEADOWS, Syston, Leicester. q.21

ITALIAN Virgin Queens, bred from Simmins' and Penna's strains, delivery end of May onwards, 5s. 6d.; also home-mated Queens, same strains, from June onwards, 10s. Safe arrival guaranteed.—MISS PALING, Golden Square, Henfield, Sussex. q.18

DUTCH BEES.—Several consignments of Bees in original skeps imported direct from Holland.—For prices, etc., apply THE BEE FARM, Cumbernauld Station, Dumbartonshire. p.72

BEES!—Expert advice offered for 2s. 6d. Apiaries inspected and put in proper order; charges moderate. Also a few empty Hives for sale.—Apply, DAVID HUNTER, Craighead, Abington, Lanarkshire. p.54

DUTCH BEES, 4-frame Nuclei, May and June delivery, also six Dutch-Italian Nuclei; £3 3s.; cash with orders; carriage paid.—SEALE, Hardumont, Oatlands Drive, Weybridge, Surrey. p.56

WOOD for Hive Making.—Empty munition boxes, 23 in. by 15 in. by 8 in., 1 in. planed boards, 1s. 6d. each, or 6s. 6d. cwt.—72, Norton Street, Hockley, Birmingham. p.58

STRICTLY BUSINESS.—Six packages Flavine, 6d.; "Intensive Bee-keeping," 6d.; a Japanned Sprayer, 5s.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. p.61

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

THE
British Bee-Keepers' Association.
Insure *now* against loss by damage done through bee stings. All particulars from
W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

IN WAR-TIME

The Nation's Food is of prime importance. The products of the Apiary, of Poultry and Farm Stock, of the Fruit and Vegetable Garden can be augmented. Buy your stock, sell the produce, through THE BAZAAR, EXCHANGE & MART Newspaper.
Get a Copy—Thursday and Saturday, 3d. The "Bazaar" publishes also practical handbooks by experts. Send for full catalogue, ———post free from———
WINDSOR HOUSE, Breams Buildings, LONDON, E.C.2

WATCH YOUR WATER SUPPLY.

A correspondent in a late issue of the B.B.J. states, "I am strongly of the opinion that the primary cause in the first onset of the disease ('I. of W.') making its appearance in this country lies in the polluted condition of our streams, which to my mind is a growing evil of late years, not only to insect life, but to the animal kingdom also." There is no doubt that the water supply is a frequent source of infection and it is surprising how many bee keepers fail to provide drinking fountains for their bees. Where this has been done, and the water medicated with "Bacterol," the advisability of such a precaution has been proved by the results obtained. As a general disinfectant and germ killer for bee keepers, General "Bacterol," is ideal. It is without stain, does not taint the honey, and most remarkable of all, the bees like it. Experts have proved over and over again its value in protecting and curing stocks of "Isle of Wight" Disease. No bee keeper should be without it.

DIRECTIONS FOR USING "BACTEROL" FOR "ISLE OF WIGHT" DISEASE.

Medicate each pint of Syrup with 1 teaspoon of General "Bacterol." Stir in when syrup is just warm or cold. **See that all stores of honey are removed before giving syrup.**

ALTERNATIVE METHOD.—Spray two or three times daily all crawlers on alighting board and in front of hive with a solution of 1 tablespoon of General "Bacterol" to 1 quart of water. Use a mist sprayer, obtainable from any bee appliance manufacturer, not an ordinary syringe.

A 5 per cent. solution (4 tablespoons to quart of water) sprayed over and inside the hives will disinfect any excreta and destroy all germs and parasites.

It is manufactured by "Bacterol," Limited, London, N., and may be obtained post free by sending P.O. for **2s. 6d.** for a half-pint bottle from either of the following addresses:

"THE BRITISH BEE JOURNAL," 23, Bedford Street, London, W.C. 2.

A. W. GAMAGE, Ltd., Holborn, E.C. 1.

JAMES LEE & SON, Ltd., George St., Uxbridge.

E. H. TAYLOR, Welwyn, Herts.

THE SERVICE FURNISHING SOCIETY, Ltd., 289-93, High Holborn, E.C. 1.

OR FROM

MENLEY & JAMES, Ltd., Menley House, Farringdon Road, London, E.C. 1.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur."

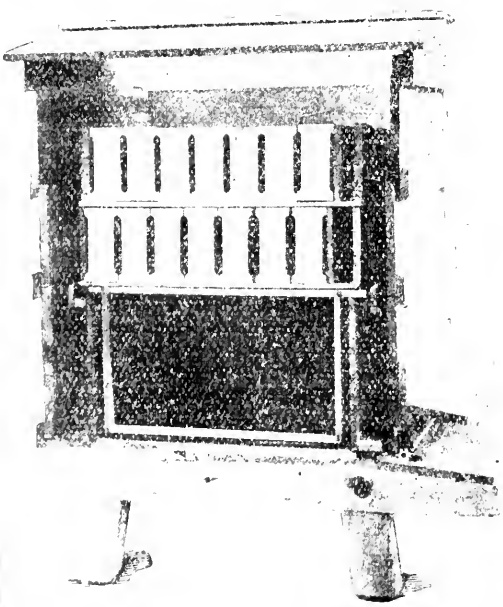
Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

NEARLY 50 YEARS ESTABLISHED.

KENT BEE HIVE WORKS.



The oldest establishment in the Kingdom wholly devoted to Bee Appliance Manufacture. W.B.C. Hive, as sketch (outside square cases). Brood Box (11 frame capacity), 2 supers (room for 3).

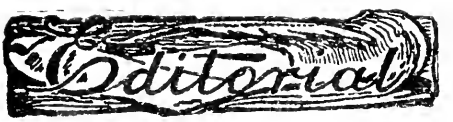
Painted, complete, as above £2 14 0

Fitted wired foundation ready for working... ... £3 16 0

Full List of everything connected with Bee-keeping.

S. J. BALDWIN,

The Apiary, Bromley, Kent.



Swarm Control.

One of the most frequent queries from bee-keepers is for a method of preventing or controlling swarming. The following from *Gleanings in Bee Culture*, for June, 1918, by Miss Iona Fowls, will, we think, be found an excellent plan :—

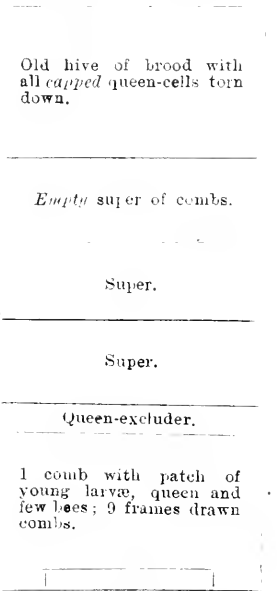
Of all the different phases of bee-keeping nothing has had more discussion and experimentation than swarm control. It therefore occured to me that to study the bee literature of the past 30 years, carefully picking out, correlating, and comparing the most successful plans of swarm control might perhaps be instructive and helpful. It is quite possible that I was slightly prejudiced at the start. At any rate, the result of this study is a firm conviction that the plan we have been using for the past five years is as good a plan as has yet been advanced for the prevention or control of swarming in the production of extracted honey in out-yards.

THE BEST PLAN FOR OUT-YARDS.

This plan is: As soon as danger of swarming arises, every seven or eight days carefully examine the colonies, keeping them always supplied with plenty of room, and destroying whatever queen-cells are found, providing they contain only eggs or young larvæ. When more advanced cells are found, place on the old stand a hive of drawn combs, one of which contains the queen, a few bees, and a few young larvæ. (If no combs are available, most of the frames may contain foundation; but there should always be at least three drawn combs, and a whole set, if possible). Above this place the queen-excluder; then two or three empty supers; and at the very top the hive of brood, tearing down only the capped queen-cells. At the end of seven or eight days, if no increase is desired, tear down all queen-cells again. If increase is wanted, simply place the upper storey on a new stand and leave them to raise their own queen, or introduce a good queen or choice cell in a protector. It is not even necessary to remove any queen-cells; for when the new queen hatches, either she or the bees will attend to that. If one desires no increase, then the queen-cells may be destroyed and the brood distributed to other colonies or left to increase the original colony. That is the entire plan, and it has for years been used by many of the best bee-keepers.

GOOD POINTS IN ABOVE PLAN.

There are points of unusual merit in this method. The conditions very closely resemble those of a natural swarm, the bees of the old colony being mostly young and hatching bees; and, being so far removed from the new swarm below, they seem to consider themselves queenless and consequently direct all their energies


Old hive of brood with all *capped* queen-cells torn down.
Empty super of combs.
Super.
Super.
Queen-excluder.
1 comb with patch of young larvæ, queen and few bees; 9 frames drawn combs.

Best extracted-honey plan of swarm prevention or control in out-yards to be applied after advanced queen-cells appear. Above lower story there should be at least three shallow or two deep supers. For swarm prevention, after eight days remove queen-cells in top story and leave brood to hatch or give to weak colonies. For swarm control, after eight days move top story to new stand, contract entrance and leave queen-cell to hatch or introduce new queen.

to the completion of splendid-looking cells. In the lower storey there are no nurse bees nor cell-builders—only field bees: and since this new colony is supplied with such an abundance of room, both for the queen and for the storing of honey, they entirely give up all ideas of swarming. Moreover, this plan keeps the working force together for a longer time: enables the bees in the upper storey to raise fine cells under the swarming impulse, keeps the brood very warm until it is all sealed and the greatest danger of chilling is over, and makes it possible to leave an apiary entirely alone for a week at a time during the swarming season.

A Dorset Yarn.

"There is a tide in the affairs of men, if taken at the flood, leads on to fortune." The flood time has not come this season to the bee-keeper. [Some have had too much "flood time."—EDS.] He who has kept on feeding is the one to reap the fortune this year. Cold winds were against our lot up till Friday evening. All day Saturday they revelled in the pear blossom; trees that had been in bloom a month and those newly opening were one glad song of fine weather and plenty of nectar. When working close to them one could see that each bee collected pollen and nectar from each flower. The movements of legs when packing pollen on the hind legs could be plainly seen, and the movement of the abdomen, so peculiar to bees when imbibing food, was very much in evidence.

I have read that one bee collects nectar, and another pollen; but it is not so with all our lot, as I watched them very closely on Jargonelle pears. These have the largest blossoms of any early pears. Many more are in full bloom for the bees to look over — Conference, Catillac, Beurré, Hardy, etc. Plums are (with us) just now at their best; the early flowering ones look to have a good set. These, as I wrote last week, were pollenised by wind; those were open in the bitter cold wind, but Saturday, May 3, bees were over all that were open. They are flying high over the fields, away after turnip bloom. I have one lot in bloom, which has a great many bees on it. If only the weather keeps fair for them, bees will be able to fill up plenty of sections, because there has never been such an abundance of blossom on our farm before, as the trees have increased in growth and acreage. It would not be policy for me to keep feeding our bees when so much fruit blossom is open for pollination, but the bee-farmer who has not his trees to consider is wise to keep on feeding. I hope that the "flood time" of which the great dramatist wrote has now come.

Saturday, May 3, was quite like June with our bees. From each stock came out thousands, all singing their loudest. It was quite a "gathering of the clans" of blacks, hybrids, and Italians. All were in festive mood round each hive, like they are in swarming time; but not a drone could be seen at the entrances, nor could their loud song be heard in all the massed chorus of workers. It was the "clarion call" of the old workers to the young bees to come out into the sunshine, to see the glad, bright world, to see the wonderful flowers, all full of sweets that are open to all of them, colours of every hue, shaped in all the variations that Nature has endowed them with. How glad the bees must be to lead out the thousands of workers to the flowers, to carry on the work of the hives, instilling into each young one that all must work for the good of the community; that no one bee lives only for self, but to work and store for the time when flowers are not. Fill the stores for "winter bleak and bare."

To the enthusiastic bee-keeper it is, as Maeterlinck wrote in his marvellous book "The Life of the Bee," telling each other of sweets everywhere for them. At our farm just now it is, "Come out to the lines of cherries, to the lines of plums and pears." The clarion call of "Come out to the fields of blossom" never seemed so real as Saturday, May 3.

Work on the farm this week has been mostly planting violets, sowing peas, and getting ground ready for mangel. Broad beans sown in autumn are now in bloom; no spring-sown ones ever bloom early like those sown in autumn. Corn is up well; the showers have helped to start the seeds on. A few turnips that were ploughed in for manure, which were not split up before ploughing, are in flower; all will help the bees. Lettuce and cabbage are ready for harvest, in spite of cold times. The old promise of "seed-time and harvest shall not cease as long as the sun and moon endureth" is ever before one's mind; as the crops all come to maturity, all tell of the wonderful works of God.

"What makes your stuff so much more forward than ours?" was asked me last week. As I mentioned last week, soils are lacking in some of the essentials of plant life. A light dressing between the lines of cabbage with sulphate of ammonia, and a cultivator run through the lines to stir up the soil and let the warmth of the sun down to the roots, will soon hasten the maturity of crops. I have always had before me the parable of the talents. If we don't use our brains, if they are of no use to the owner, he will be used as a chattel by the man that has more brains, as was the talent taken from the man who did not use it. Get to know the soil, and what it will do, add to it what it wants at the right time, and a sure return follows at remunerative prices. This can be seen with a crop of rye which we are cutting for horses and stock. Sulphate of ammonia was sown over some of it to hasten maturity, as the supply of hay was getting short (the Government commandeered some of it). It has a foot extra of length to the growth on the area; the other part is not nearly so forward, neither in length nor thickness of stem. So with our bees. Use the talents given for our own benefit, get the most out of them from the flowers on the farm, or someone else will be exploiting you and your flowers for their own gain.—J. J. KETTLE.

British Bee-Keepers' Association.

CONVERSAZIONE.

(*Continued.*)

Mr. F. W. Watts: Might I ask Mr. Judge why he has not brought the standardisation of hives into his scheme?

Mr. Reid: I think, perhaps, the best way would be for Mr. Judge to reply at once; but, on the other hand, I think that though he has been good enough to start the discussion, he has not come here to speak with the desire to answer questions, but no doubt he will consent to reply to this question.

Mr. Judge: Had time permitted, I should certainly have mentioned that subject, because I feel strongly that we ought to obtain some information concerning standardisation. As you probably all know, the British Bee-keepers' Association appointed a committee about eighteen months ago to go into this subject. I was one of the members of that committee, and we met on a number of occasions, trying to come to some definite decision as to the best course to pursue. The conclusion arrived at was that it was inopportune at that time to adopt the standardisation of hives. I hope now that it will not be very long before the subject is re-opened. I do feel that unless something is done shortly we shall be in the same position in twenty years' time as we are now.

Mr. Sanders: With regard to standardisation, I have read the correspondence, and think that there has been a misconception about it. The idea seems prevalent that it is proposed to standardise one hive, whereas I believe the idea was to standardise several.

Mr. W. Herrod-Hempsall, upon rising to speak, was loudly applauded, thereupon Mr. Reid remarked that he was very pleased that their secretary met with such a hearty reception; he was well known to all bee-keepers, and it would be difficult to find a more loyal, energetic, or devoted worker in the interest of both the Association and bee-keeping generally than he was.

The Secretary then spoke as follows: In connection with Mr. Judge's excellent speech, a most important detail has been omitted, *i.e.*, a plea for unity, not only amongst Associations, but amongst individual bee-keepers.

I am certain from my own experience, and personal knowledge, that there has never been a more opportune time for bee-keeping to be pushed forward in Great Britain than the present. During the past year the Government have realised, as they never did before, that bee-keeping is really an important industry in this country, and one which is entitled to be fostered and assisted. Let me say plainly to-night, that if we are to reap to the full the advantages which may be obtained by Government assistance, we must make up our minds to be united so firmly, that when a proposition, or request, is put before them on behalf of the craft, it will be for the benefit of all, and drafted by those put in authority by the bee-keepers of this country to speak for them, and not spasmodically by irresponsible individuals, with their own axe to grind, and who represent only their own ideas, as is often the case at present.

Much as I regret to say it, there are a few bee-keepers who are selfish, they are out to get all they possibly can for themselves, and do not mind one bit how others fare, so long as they get their pound of flesh. This is an unusual trait in the character of bee-keepers, the pity is that it is present even to a microscopic degree. If we are to succeed as a united body, then all of us will have to be as unselfish as the worker bee. We must put aside all thought of self, and work for the benefit of the community. I tell you quite frankly, that if we miss the present opportunity, and let personal considerations interfere with our work, then the importance and success of the industry in Great Britain will sink to a lower level than in any other country in the world. If we can to-day agree to be united, then indeed there is a splendid opportunity for the development of bee-keeping in the British islands.

Mr. Judge said that many Associations are loyal to the British. It is not only necessary to be loyal to the British, but quite as important to be loyal to our fellow craftsmen, given this we are bound to carry out our obligations both to our local Associations and the British. There are, I believe, only two county Associations which are not working in unity with the parent, the rest are loyal, not only to the parent, but to their members. If an Association does not carry out its work in such a manner that the members receive the maximum of the benefits obtainable, irrespective of individual, real, or supposed grievances of any official, then it is not just to its members, and many are made to suffer to gratify the spleen, or pique, of one or two persons. The full benefits can only be obtained by all working harmoniously under the system of affiliation. This being so, I plead with all sincerity, and with a certain knowledge of the good that will be done for complete unity amongst my fellow bee-keepers.

(*To be continued.*)

Wax Secretion and Disease.

[The publication of these "Comments," which were originally intended for last week's issue of the JOURNAL, was unavoidably delayed through great pressure on our space.—ED.]

Nine months ago, I criticised in *Co-operative Food Culture* the "wax secretion theory" of "Isle of Wight" disease in the following words: ". . . . . Many other suggestions are put forward either by practical bee-keepers or by amateurs, explaining certain features of 'Isle of Wight' disease, but nearly all these on analysis appear wrong. I have no hesitation in including in this group the view that under modern conditions of bee-keeping bees are not permitted to 'excrete' sufficient wax, and so are prevented from excreting all extraneous and deleterious matters, with the result that they are thus exposed to 'Isle of Wight' disease. The obvious answer to this remark is that *wax is a 'secretion,' not an 'excretion'*; that it is produced at the expense of consuming much food, and is far from containing deleterious matters; that colonies in skeps with no 'foundation' whatever to build upon, are not more immune to the disease than those in modern hives; that 'Isle of Wight' disease has an infectious element in it, and is always associated with the infecting agent or agents; that even in modern hives there are ample opportunities for wax building, in fact, far greater opportunities than met with in a skep*; that wax secretion, like the secretion of larvæ food, if overdone, is actually exhaustive and not helpful to the bees; and, lastly, that it would be really more helpful for our insects, more economical to ourselves, and more satisfactory in safeguarding against bee infections, to utilise artificial honeycomb which is capable of being sterilised, and to limit the wax secreting function of the bees to the capping of the cells, and to the production of sections. This would be just a moderate and a reasonable task for them as well as a good saving to ourselves."†

I need not add much at present to the above comments; but in view of the repeated recent references to this subject in one form or the other by various observers, it is probably time to give some additional brief remarks.

So far as *the immunity of the skep* from "Isle of Wight" disease is concerned, there are no statistics nor any substantial evidence in proof of this. On the other hand, there are ample data to suggest that annual re-queening, good strains of bees, absence of interference with the combs (which in practice is equivalent to the *antiseptic management* of modern hives, or in other words to thorough cleanliness), and the non-championship of weak colonies—all appear to be the dominant factors in the successful methods of some skeppists. Added to this I would remark that the propolised and partly wax-lined skep affords both better *insulation* and *ventilation* than presented by many average modern hives, in which these factors are given inadequate attention. The factor of wax secretion does not in the least come in. Accidental or achieved success with modern hives, in spite of the prevalence of disease, can be claimed by modern apiarists as much as by skeppists. Modern hives were not the order of the day when historical epidemics were rampant.

To suggest, on the other hand, that the cessation of wax secretion is responsible for a disease with some symptoms not unlike those of "Isle of Wight" disease proper is a different matter. But here again, there is nothing to support this view. I do not consider in any way, that the almost complete and forced inactivity of the bees (which in a sense is just as bad as over-activity) during the greatest part of winter as likely to keep them in the best of health; at the same time, wax secretion is not the only physiological function which is apparently suspended by the bees during the winter. It is interesting also to recall that it is a *voluntary* function not performed without overfeeding, and always at a high temperature, which is never below 85 deg. Fah., and, in fact, is usually at a much higher degree than this. At least this last factor is absent in winter.

Twelve years ago, Imms reported‡ on the constant presence of wax in the alimentary canal of diseased bees. He wrote as follows: "The yellow amorphous material . . . . . is another constant feature; thus in forty-seven diseased bees from Thorley, specially examined for this substance, all contained an abundance of it; in twenty-one bees from Shanklin, all except two contained the substance, and in about a dozen bees from Great Whitcombe it was found to be present in all of them.

* A letter by Major Littledale supporting the view that there are ample opportunities for wax secretion in the modern hive appeared in the *British Bee Journal* for April 24.

† Similar and partly additional notes by the writer appeared in *Bee Craft* for March and April, 1919.

‡ The *Journal of the Board of Agriculture*, June, 1907, p. 136.

The nature of this substance from an examination made for me by Professor T. B. Wood, M.A., of Cains College, leaves but little doubt that it is ordinary beeswax. . . . . In many cases this material seems to have been formed around a pollen grain, or several of the latter as a nucleus."

No great surprise need be created regarding the presence of this material in the alimentary canal of the sick bee. Fragmentary particles of wax are sure to be found in extracted syrup, or honey which is re-fed to the bees. But this is not a sufficient explanation. I can only suggest what I have suspected for a long time, that under certain circumstances bees *eat* wax. It is possible that the undigested wax, as Imms remarks, becomes deposited around a nucleus of pollen grains; on the other hand, it is possible also that the revelation of the microscope or chemical reagents indicate no more than the presence of undigested "*pollen wax*," originally so constituted by the bees. It cannot possibly be considered as having found a *direct* passage to the intestine from the wax glands unless we admit of the presence of a fistulous communication between the latter and the intestine. Such a pathological condition has never been met with, and would probably have meant serious inflammatory troubles ending in rapid death. There is no obstruction to prevent the wax secretion in winter, should it ever occur, from following the natural course of exit. It is not so reckless as it might appear to suggest, therefore, the possibility of bees *eating* wax. In fact, I have occasionally met with its presence in the intestinal contents of *healthy* bees (which have *not* been feeding previously on extracted food) after confinement. It is possible that it is eaten as a heat-generating food under the depressing influence of cold, especially in the absence of pollen, and that healthy bees are capable of digesting it; but that debilitated bees, whatever the cause of their weakness may be, are incapable of its assimilation. There is not much curiosity in this suggestion, seeing that wax is a healthy secretion, and is, after all, a form of food, although used primarily by the bees to serve their architecture. The reverse is met with in the case of pollen, which is primarily a food, but which, nevertheless, is made use of by the bees in the construction of their buildings.

Wintering Bees.

With every respect to those who believe otherwise, there is no evidence in the literature of the past century to suggest that in cold countries, even in the absence of epidemics, ordinary outdoor wintering leaves nothing to be desired, or is quite protective in itself. We gather indications of past epidemics, but we learn also of regular winter losses in cold countries, which losses certainly do not compare favourably with those of temperate climates. Even at the present time in such an extensive country as the United States of America, there is ample evidence to show that the winter losses of the North are proportionately greater than those of the South, and that cellar wintering, in spite of its disadvantageous features, is more protective than ordinary outdoor wintering wherever the former is intelligently adopted.

I have repeatedly laid emphasis on the importance of a protective home for our bees, for two reasons:—(1) Because of the *direct* influence of a severe prolonged frost in causing the excessive hibernation of the bees, especially those placed in unfavourable positions in the hive, thus contributing to the incidence of *preventable starvation*, in spite of the sufficiency of stores. This is more likely to happen with weak colonies, but even exceptionally strong colonies do not escape a partial loss from this factor. It will be suggested that none but very strong colonies should be wintered; and I cordially agree with that. But such a maxim needs an important qualification, to which attention must be directed. An apparently strong colony of which the apiarist may be proud is prepared for wintering, say, early in September: but unless the apiarist is *sure* of the *predominance* of young bees amongst its members, such a colony must be considered *potentially* weak, and by the time the frosty season makes its appearance, the frequent mortalities amongst the old bees, would leave the stock housed in a room (with a "grave yard" floor . . .) which has become proportionately large and with no special means of insulation; thus rendering the creation of a safe, protective temperature within the hive almost an impossible task for the survivors. The final result may be the loss of many bees, if not of the whole colony, from chilling and *preventable starvation*. (2) Because prolonged cold, approximate to freezing, although less severe in direct effects, is not the right temperature for safe, quiet wintering. It will not cause the excessive hibernation of a society of bees collected together, but it will induce them to overfeed for the generation of protective heat, thus *indirectly* contributing, in the absence of adequate opportunities for a cleansing flight, to the disturbance of their metabolism and to the *establishment of toxaemia*, through the absorption of ali-

mentary poisons from accumulated waste products. This appears to be productive of a form of illness which is *not primarily* infectious, but which presents gross symptoms more or less indistinguishable by many apiarists from those of "Isle of Wight" disease. One can hardly term such an illness, however, "Isle of Wight Bee Disease" proper, considering that the term was originally applied to an epidemic of *Nosema infection*, but has become misused. It is not in the interests of better knowledge to avoid in future a better terminology and classification. I shall shortly give a brief account of the results of a few experiments, which, from being limited, cannot however be considered conclusive. Conclusive evidence generally rests on numerous tests, the materials and facilities for which are beyond my reach. Nevertheless, they will not be without interest and guiding light.

That some progressive and conscientious apiarists have managed in the past to successfully winter their bees in ordinary hives, in the absence of infection, I am ready to admit; in fact, some of them are still capable of doing so with a small loss, in spite of the presence of infection in their districts. But it all amounts to using (*generally at one and the same time*), good strains of bees, young prolific queens, and thorough cleanliness, also to the championship of none but strong colonies capable to an appreciable extent of combating the winter cold. With a *strong colony of young bees* that are normally expected to survive the winter, the colony will generally manage to live through the winter, but *not* without a big sacrifice, which is, of course, compensated for to some extent by the early breeding of their young prolific queen. But why should we ever tolerate such *avoidable* losses? They cannot be denied. A strong colony composed, to the best belief of the experienced apiarist, of about 80 per cent. of young bees in October, and densely covering ten frames of comb, will be found by the inquisitive searcher to cover no more than four combs in February. . . . . Why is this? Losses through cleansing flights alone are not sufficient to account for it. Here is some food for thought. It is not only the mere survival of the colony which is to be aimed at, but also the survival of an appreciable percentage of its strength. It must be remembered also that the *average* bee-keeper often fails to establish the natural factors for successful wintering. The busy commercial apiarist is often in the same position. The failure of the former will undoubtedly be partly compensated for by possessing protective hives; and for the latter, a *modern winter apiary* will be an advantage. I fail to understand, after this discussion, on what reasonable grounds can the practical apiarist object to the suggestion, when it is quite evident that, whether economically or technically considered, it is far from being a mistake, and is, in my humble opinion, an appreciable advantage, and not only for wintering. I need not enumerate the main reasons previously given on repeated occasions.

Abnormal winter losses cannot be attributed to one cause only. We have multiple factors to deal with, and unless we endeavour to analyse and understand these factors we shall simply continue to fight in the dark. I consider a protective insulating hive (or its equivalent in the shape of an artificially heated winter apiary accommodating simple ordinary hives) an essential equipment in cold countries for the *average* bee-keeper. Men of high qualifications, or of adequate business facilities, are not in need of my advice. Let me rightly consider them the exception and not the rule. It does not necessarily follow that a big apiarist is able to command all the factors necessary for successful outdoor wintering. His limited time and the lack of qualified assistance in one way or the other act as calculable hindrances.

The data on which the view of advantageous *indoor wintering* is based have been frequently explained before, and they cannot be destroyed without bombarding at the same time recognised and fundamental orthodox principles. I regret that I do not possess, and cannot afford, apart from not needing at present, a winter apiary such as that referred to in THE BRITISH BEE JOURNAL of February 3, 1919. Therefore, I cannot give any proof account of its merits; but it is not such a fantastic idea which of necessity requires to be met with any scepticism. It is a common-sense application of careful reasoning dependent on views which I am not alone responsible for. I possess, however, an experimental *incubator hive* constructed early in 1918 (and previously referred to in the JOURNAL), the usefulness of which led me to favour the idea of an over-ground, *artificially heated winter apiary*. To this point I shall refer again in the near future. It must be clearly understood that such a building is intended only for the big apiarian; and as it is suggested that it may be fitted with special hives of the type of modified travelling boxes, it is decidedly a more paying investment than the single possession of many elaborate outdoor hives left continuously exposed to the changing seasons. A commercial apiarist owning such a winter apiary can afford to distribute his numerous colonies over a

wide area during the season, and to re-accommodate them in the winter apiary, after uniting all weaklings in the fall. *Artificial darkness* and temporary imprisonment are available facilities for helping to establish the colonies in their new quarters. I may say again that I need not dwell further on the advantages of such a winter apiary already given in the B.B.J. of March 27, 1919.

The *insular hive* is recommended only to the small bee-keeper, especially for one possessing an *out-apiary*, and who is in need of, or cannot afford, a sheltered apiary for wintering. Before finally favouring this type of hive for winter protection in out-apiaries, experiments were conducted with double-walled boxes filled with pressed wooden chips, as well as with similar boxes, the practical dead-air space between its walls being not so much obliterated, *i.e.*, being *partly* divided by the *loose* insertion of the insulating material.* Although the former was found to some extent more effective in preserving the temperature within the box, nevertheless it was also found capable of remaining damp once it became wet. The second form of insulation was found to be a better remedy against having damp walls, and the use of paint or varnish additionally ensured this. Hence it was favoured and suggested to the manufacturers, together with the advice of varnishing or enamelling the interior of the hive. Experiments were also conducted on ordinary W.B.C. hives, between their body boxes and stock boxes corked bottles containing cold tap water were placed. The whole space on the top was well covered with woollen blankets, but without letting the latter touch the under surface of the roof. The prolonged sharp January frost of this year afforded excellent opportunities for re-testing the merits of such a free space round the stock box as an insulator from cold. In *all* instances the water was found *frozen* within the bottles. Maximum and minimum thermometers were also employed, but only to show that, so far as insulation was concerned, the outer casing in the usual thickness supplied by the manufacturers was quite valueless. The use of double-walled hives, to my knowledge, was not guided in the past by scientific experiments. I cannot approve, for instance, the use of pressed cork-dust or chaff similarly inserted. The practice was abandoned apparently for no reason other than a change of fashion and a hopeless rivalry amongst the manufacturers to produce what is cheap, but not necessarily what is economical. I am one of the last persons to champion the profiteers; at the same time I much deprecate the fondness of the majority of apiarists for procuring what is cheap, whether in the form of bees, hives, or appliances, generally to find at the end of their adventures that they have purchased the most expensive. There are almost obsolete articles on the market, the survival of which is simply patronised by tradition. This does not apply to bee-keeping alone. To use Mr. J. J. Humphrey's words, "Up to the present time manufacturers have rarely taken into consideration the user of the article. He is mostly concerned in turning out a low-priced one which catches the unwary and the inexperienced. He does this to enable him to compete successfully with other makers." The exceptions do not count.

* Interesting information on the value as heat insulators of various popular articles is contributed by Mr. R. H. Pettit to the February issue of *The Domestic Bee-keeper*.

Bee-Feeding in Autumn.

Unless done as a *necessity*, bee-feeding in the autumn should be avoided, for two reasons: (1) the desirability of preventing over-work to the young bees which are expected to carry the colony during the winter months (this does not mean that I dispute that a *mild* exercise of their functions is beneficial); (2) it is problematical whether such stored food will have sufficient time (considering the degree of autumn temperature, even within the hive itself) to adequately ripen and to be properly capped.

It is a wise practice to secure *well in advance* the winter stores necessary for the bees before claiming any surplus as belonging to the apiarist. A method of procedure to effect this has been recommended in connection with the super sections or side compartments of the *brood-hatching chamber*.

When we talk of honey for our bees we should naturally exclude inferior grades of honey, and especially the so-called "dark honey," which may or may not comprise a proportion of *honey dew*. I do not approve the practice of supplying the bees, *for winter use*, with low-grade honey which is not suitable or ideal for human consumption. We have for ourselves other foods to compensate for a poor-quality honey; the bees in winter have no such compensation.

That *syrup* is a very useful *emergency diet* no one will deny. Its economical value in inducing brood-rearing, for stimulating wax secretion, and for other purposes, cannot be disputed for a moment. But as a choice winter food it deserves to be condemned. Artificial food, even in the shape of *synthetic honey*,* cannot possibly approach in dietetic and bio-chemical value to natural honey, the normal food for the bees.

Regarding *honey-feeding* in autumn, it is to be objected to unless *early* done, for

* *Co-operative Food Culture*, November, 1918, p. 65; January, 1919, p. 93; and February, 1919, p. 106.

the reasons mentioned in relation to syrup-feeding. I do not know of any experienced apiarist, either in this country or abroad, who condemns honey-feeding other than Mr. C. B. Bartlett.* I could not find any feasible reason for the alleged harm to the bees resulting from such a practice, and the best semi-feasible explanation which I could think of was to lay the blame on the additional re-charge of the re-stored honey with digestive ferments.

* *Bee Craft*, April, 1919, p. 5.

Glasgow and District Bee-Keepers' Association.

The first annual meeting of the above Association was held in the Christian Institute on April 28, when the first annual report was presented to the members.

This Association was originally formed by the members of a class held at the Agricultural College, when 53 joined. Since the inauguration of the Association the membership has reached the total of 97—two members only having resigned.

The subscriptions for the year amounted to £10 3s. 6d., while sundry expenses, postage, etc., and membership fee to the Scottish Bee-Keepers' Association totalled £6 3s. 6d., leaving a balance in hand of £4, as shown by the accounts which had been duly audited and passed.

The officers for the present year were elected—Major Henderson, M.P. for Tradeston, being elected Honorary President—and it was proposed that there should be monthly meetings for Bee Talks in addition to a series of lectures.

The Hon. Secretary, Mr. P. Bebbington, 65, Robertson Street, Glasgow, will be pleased to hear from ladies and gentlemen interested in bee-keeping who wish to become members.

Warwickshire Bee-Keepers' Association.

ANNUAL MEETING.

The annual meeting of this Association was held on May 1, when Mr. A. H. Foster (Chairman of Committee) presided. The statement of accounts, showing a credit balance, was approved, and the officers for the ensuing year, with the Earl of Craven as President, were duly elected. At the close of the business of the meeting a discussion took place on apiculture generally, in which great enthusiasm was manifested.

It was announced that arrangements were being made for a show to be held at Leamington in conjunction with the Warwickshire Agricultural Society, in September next, of which full particulars would be issued in due course.

That Skep.

[9909] I have greatly enjoyed the correspondence *re* the above. In your issue of March 20, your correspondent "Oscottian," gave expression to thoughts which have been in my mind for some time, but with your generous consent I should like to offer a friendly criticism of your editorial remarks at the end of the above correspondent's letter.

When bees obey Nature's call, and sally forth as a swarm to a new home, they will, by that same natural instinct (or is it intelligence?) furnish that home with combs containing both worker and drone brood. Now, with our present incomplete knowledge of things in general, and bees in particular, I think we ought to hesitate before making an unqualified statement that in this natural procedure on the part of the bees "There is too much *waste*, not only in the building of drone comb, but in the rearing of drones."

We are told that drones keep up the temperature of the hive, and I have read of whole combs of brood being almost entirely covered by drones. I also read some time ago, in the *American Bee Journal*, of one bee-keeper who, in fitting up his frames with sheets of foundation, always allowed drone comb in the two lower corners, as he found that his feminine workers always worked with more vigour for the presence of these "sturdy bee lads."

I also state a problem which I have never yet seen in print. The natural objection to drones, of course, is, that like the lilies, "they toil not neither do they spin," but only consume the labour of their sisters; but is it not possible that in the summer, when honey literally "flows," it is gathered by the workers who are enabled to leave the hive in quest thereof, the drones meantime undertaking the work (?) of incubation of the brood—that this honey far outweighs that consumed by the drones? For, be it remembered, the drones are only on the wing for a short time in the warmest part of the day, when, of course, the heat of the hive will be at its highest, but the workers are able to gather nectar for a considerable part of the day. Further, as soon as cold weather approaches, and the "flow" of honey begins to fail, the drones are turned out.

Can we trust the natural instinct of

the workers to define the moment when the daily expenditure on drones becomes unwarranted by the daily income from the fields?

But before this interesting problem is solved I should like to see the one raised by your correspondent aired a little, as seeming to me most important, viz.: "Is *comb-building necessary* to keep bees fit—apart from the *kind* of comb built.

I should like to raise several other points on the above subject, but my letter is already too long.—CRITIC, Sheffield.

[We still hold that it is a waste all round to breed too many drones. The only function performed by drones that cannot be done by the workers is to mate with the queen. Everything else that our correspondent mentions as being done by drones can be equally well done by worker bees, who will also add to the wealth of the community, instead of living on the labour of others.—EDS.]

Wintering Bees.

[9910] I should like to say a word in appreciation of Dr. Abushâdy's instructive articles, and also to support his contention that protection for bees in winter is *the* thing needed to bring our stocks through the cold, frosty spells that we contend with, particularly in my district near the East Coast. With men of his abilities, and sharing the same enthusiasm, I think the "Isle of Wight" disease would soon find an exodus, and it would come under the same category as the minor diseases of bees. What he says about wintering bees will be supported by my last year's experience. Late last October I heard of a man who was going to burn a box of bees, as he knew there was not sufficient honey stored to winter them, it being a late cast. Bees, being bees in these days, I went and drove them, and managed to scrape out of my sugar allowance 4 lbs. of loaf (they would have had more if the grocer had sent less beet sugar). They took it down rapidly, and I also borrowed one comb of honey from another hive, making, in addition, seven frames, *six* with *foundation only*. I then placed the hive in a shed that was well sheltered, and when I examined them a fortnight ago they had nothing. The sheets of foundation had been only partially drawn out in the centre, and there were only eggs on the old drawn-out comb I had taken from the other hive. If I had not placed those bees in that shed should I have found them alive now? Again, what they had consumed must have been below the minimum, because they had not got it. Again, they had lost very few of their number, there being but a slight percentage dead on the floor. They had not to restrain their natural functions, as they had no necessity. What is necessary to the safe wintering of bees in this climate is keeping them in an equable temperature that will just keep them dormant, without being excessively cold, and subjected to the constant variations of the temperature such as we get in this country during winter.—GEORGE CLARKE.

Prices of Bees and Honey.

[9911] I have read, with interest, Mr. Ellis' Notes from Gretna Green. Regarding "extreme prices" mentioned. I consider the price, £5, fairly stiff, but not excessive in view of the Government charge for these large Dutch skeps, which they are sending out in connection with their re-stocking scheme. Mr. Ellis might have mentioned some of our British breeders who do not scruple to demand anything from 30s. to £5 5s. each for nuclei, and sometimes poor weak things at that. Some time ago I purchased a Dutch stock, and had such good results from it that I am trying other two this season. However, what caused me to write just now, was to draw attention to the want of consistency on the part of Mr. Ellis. Does he think it quite the thing to complain about these large skeps of bees being sold at £5, and complacently announce that he, himself, asked 2s. 9d. each for sections *wholesale*? No wonder people grumble when they are charged 3s. 6d. per section *retail*! Might I ask Mr. Ellis how much more it cost him to produce his sections *now* than in 1914, when we could only get 9d. to 10d. each? Would he not consider an advance of 250 per cent., on a very trifling extra cost to *him*, an "extreme price"?

Oh, consistency! how few votary's thou hast? I am making no complaint, as I consider if the price of a section, or a stock of bees does not suit me, I don't require to buy, and there's an end of it. —J. SMILLIE.

Weather Report.

WESTBOURNE, April, 1919.

Rainfall, 1·79 in.	Frosty nights, 9.
Heaviest fall, ·34 in. on 27th.	Mean maximum, 53·2.
Rain fell on 14 days.	Mean minimum, 37·3.
Above average, ·01 in.	Mean temperature, 45·2.
Maximum temperature, 70 on 19th.	Below average, 0·9
Minimum temperature, 25 on 1st.	Maximum barometer, 30·667 on 21st.
Minimum on grass, 22 on 1st.	Minimum barometer, 28·944 on 15th.

L. B. BIRKETT.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

G. HORNER (Hythe).—*Queen not laying.*—If you have been feeding, there should be some brood now. If there is not, do not waste any more time with that queen, but either unite to another stock, or get another queen. The better plan will be to unite.

H. M. HOLDEN (Essex).—*Price of swarms.*—The most satisfactory way is to sell by weight, and so far as we can tell a fair price will be 6s. per lb. to about the third week in June, and after that 5s. per lb.

T. JONES (Cardiff).—*Late flowering plants for bees.*—Some of the following may suit your purpose :—Borage, flowers August and September; Buckwheat, July and August; Alsike Clover, June to September; Bokhara and White Clovers, June to August; Lucerne, August and September.

C. D. BURNETT (Aldershot).—*Moving bees.*—It will be quite safe to move the bees in August or September. We should prefer to do it in September, if possible, when the weather is cooler. You may move them in the hives if they are made secure and an abundance of ventilation is given. An article on "Packing Bees for Transit" was given in the RECORD for November and December, 1916.

E. TURNER (London, N.).—The bee was *Andrena longipes*, female.

E. LAIT (Romford).—For particulars of bees for restocking in Essex apply to the Secretary, Horticultural Sub-Committee, The Agricultural Institute, Chelmsford.

G. W. (Rillington).—Apply to the Joint Secretaries, Horticultural Sub-Committee, County Hall, Beverley.

Suspected Disease.

W. H. CAMM (Birmingham).—(1) Cause of death in both cases was "I.O.W." disease. (2) Extract any honey or other stores, and soak for 12 hours, or longer in a solution of some antiseptic and water as you suggest. (3) The honey is perfectly good for human consumption. Do not leave it in the comb for other bees. (4) You should be able to get some; watch our advertisement columns.

We are sorry we are unable to give any explanation of the appearance of the combs.

J. E. SHORT (Cornwall).—The bees were suffering from "I.O.W." disease. The best thing would be to cut down the tree, and burn the portion containing bees. If that cannot be done suffocate any bees left, and close the opening securely.

"MAERFIELD" (Bolton) and G. C. TALBOT (Southgate).—The cause of death was "I.O.W." disease.

G. M. BAYLY (Wembly).—We do not find disease in the bees you sent.

WATCH YOUR WATER SUPPLY.

A correspondent in a late issue of the B.B.J. states, "I am strongly of the opinion that the primary cause in the first onset of the disease ('I. of W.') making its appearance in this country lies in the polluted condition of our streams, which to my mind is a growing evil of late years, not only to insect life, but to the animal kingdom also." There is no doubt that the water supply is a frequent source of infection and it is surprising how many bee keepers fail to provide drinking fountains for their bees. Where this has been done, and the water medicated with "Bacterol," the advisability of such a precaution has been proved by the results obtained. As a general disinfectant and germ killer for bee keepers, General "Bacterol," is ideal. It is without stain, does not taint the honey, and most remarkable of all, the bees like it. Experts have proved over and over again its value in protecting and curing stocks of "Isle of Wight" Disease. No bee keeper should be without it.

DIRECTIONS FOR USING "BACTEROL" FOR "ISLE OF WIGHT" DISEASE.

Medicate each pint of Syrup with 1 teaspoon of General "Bacterol." Stir in when syrup is just warm or cold. **See that all stores of honey are removed before giving syrup.**

ALTERNATIVE METHOD.—Spray two or three times daily all crawlers on alighting board and in front of hive with a solution of 1 tablespoon of General "Bacterol" to 1 quart of water. Use a mist sprayer, obtainable from any bee appliance manufacturer, not an ordinary syringe.

A 5 per cent. solution (4 tablespoons to quart of water) sprayed over and inside the hives will disinfect any excreta and destroy all germs and parasites.

It is manufactured by "Bacterol," Limited, London, N., and may be obtained post free by sending P.O. for **2s. 6d.** for a half-pint bottle from either of the following addresses:

"THE BRITISH BEE JOURNAL," 23, Bedford Street, London, W.C. 2.

A. W. GAMAGE, Ltd., Holborn, E.C. 1.

JAMES LEE & SON, Ltd., George St., Uxbridge.

E. H. TAYLOR, Welwyn, Herts.

THE SERVICE FURNISHING SOCIETY, Ltd., 289-93, High Holborn, E.C. 1.

OR FROM

MENLEY & JAMES, Ltd., Menley House, Farringdon Road, London, E.C. 1.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 11 and 12, at Truro.—Royal Cornwall Show. Five Open Classes for Honey of any year. Schedules from Miss Alac Buck, Bosvigo, Truro. **Entries close June 4.**

June 24 to June 28, at Cardiff.—Royal Agricultural Society's Show. Bee and Honey Section, under the direction of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from The Secretary, 23, Bedford Street, Strand, W.C.2. **Entries close Monday, May 26.**

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

TWO almost new Matchboard Portable Span Sheds, useful office or apiary, new Ruberoid roofs, 6 ft. by 4 ft. by 6 ft. 6 in. high, window, lock door, £5 15s. each, on rail.—J. FLOWER, Whaddon Farm, Owslebury, Winchester. q.23

FOR SALE, two Stocks of Bees (Blacks) with 1918 Queens, in telescopic hives, wintered on own stores; immediate delivery; price £10 10s.—J. S., BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. q.24

FOR SALE, good Geared Extractor, 45s.; three 15-frame Hives, with frames and two supers, £1 each, or nearest offers.—CYRIL WADSWORTH, Stairfoot, Barnsley. q.25

WANTED, Cheshire, "Bees and Bee-keeping," Vol. II. State price.—HEWISON, Marr Vicarage, Doncaster. q.26

FOR SALE, Marvel Extractor, little used, no gear, 18s.—STRICKLAND, Aldercas, Langley Mill, Notts. q.27

10 WELLS' Hives and Supers, holding 20 standard frames, just the hives for Italian bees; also 12 W.B.C. Hives and a quantity of W.B.C. Section Racks, and Shallow Frame Boxes, the property of the late J. Rymer.—Apply, EDWARD BAKER, Pickering, Yorks. q.28

GOOD double-walled Box Hive, stock box, 2-ft. 6-in. lifts, section rack, price 15s.—BEE APIARY, Simpson, Bletchley. q.29

WANTED, at once, Fertile Queen; 1918 Italian preferred.—HEWITT, Alverthorpe, Wakefield. q.31

FOR SALE, all the stock-in-trade of Bee Appliances, Tins, Bottles, etc., belonging to the late Richard Brown.—Apply, MR. R. BROWN, Flora House, Somersham, Hunts. q.44

FOR SALE, substantial second-hand Hives, 2-frame Observatory Hive, Extractor, and Appliances.—MRS. ROBSON, Oakleigh, Butterknowle, Co. Durham. q.30

THREE strong Stocks, two hybrids, one native. Hives, drawn-out Combs, many accessories. Offers, whole or part.—MORRIS, 44, Fairclose Road, Beccles, Suffolk. q.32

EIGHTEEN 1-lb. screw-caps, best quality Light Granulated Honey; also one 8-lb. tie-over glass jar ditto. What offers?—TOWNSEND, Lydbrook, Glos. q.33

WANTED, three or four frames of Brood and Bees, or a good Stock.—Reply, at once, AYERS, 77, Lordship Lane, Dulwich. q.34

TWO Fertile Queens, 1918 (English Black), from healthy stocks, 7s. 6d. each.—DUTTON, Acton Nursery, Wrexham. q.35

WANTED, experienced Lady Bee-keeper to take charge of apiary. State full particulars and salary required.—GORDON, Wonham, Bampton, North Devon. q.36

WANTED, immediately, strong Colonies in Skeps; must be guaranteed healthy.—Offers at once to BEE, 18, Beaconsfield Road, Ealing, W.5. q.37

WANTED, to buy or rent from June 24, Small House, preferably detached, with large garden or land up to 10 acres; furnished, or unfurnished; within about one hour City. Cash waiting; no commission to pay.—Full particulars, giving altitude, distance from station, to "Buyer," at HORNCASTLE'S, 60, Cheapside, E.C.2. q.38

THREE W.B.C. joiner-made Bee Hives, 50s., 40s., 30s.; Brood Frames, Sections, Escape, Wire and Zinc Excluders, and other articles.—STEPHENS, 102, Riverway, N.13. q.39

WE commence work in the D.B. Apiary May 15 and finish August 15. This gives the bees and bee-keeper a nine months' holiday. We explain how we do this in "Let the Bees Tell You."—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.40

WANTED, to rent for one year, with option to buy, Cottage and about 4 acres of land suitable for fruit, bees, and poultry; if possible with accommodation for general stores or tea shop. Land must be sandy.—"F.," B.B.J. Office, 23, Bedford Street, W.C.2. p.34

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

FOR SALE, 1918 Dutch and Italian Queens, 10s. 6d. each.—PEIRCE, Rosemount, Tudor Hill, Sutton Coldfield. q.42

JUNE Stocks and Queens for Sale. List stamp. —PEARSON & GALE, Marlborough. q.41

1919 IMPORTED Golden Italian Fertile Queens.—Orders booked and executed in rotation. Regular supplies throughout the season Price 14s. 6d.; specially selected, 17s. 6d. Cash terms. Stamp for reply.—GOODARE, New Cross, Wednesfield. q.19

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

50 3-frame Nuclei of Dutch and Dutch-Italian with 1919 fertile queens, June delivery, £2 5s.; also 4-frame Nuclei, end of May, £3 3s.; carriage paid. Can take orders for Fertile Queens, end June; price 10s. 6d.; Virgins, 5s. Cash with order.—SEALE, Hardumont, Oatlands Drive, Weybridge, Surrey. q.43

GET-A-HUSTLE-ON.—To B. and millions of B's if you rear queens and use our right up-to-date Appliances. Kat-a-log free.—MEADOWS, Syston, Leicester. q.21

ITALIAN Virgin Queens, bred from Simmins' and Penna's strains, delivery end of May onwards, 5s. 6d.; also home-mated Queens, same strains, from June onwards, 10s. Safe arrival guaranteed.—MISS PALING, Golden Square, Henfield, Sussex. q.18

DUTCH BEES.—Several consignments of Bees in original skeps imported direct from Holland.—For prices, etc., apply THE BEE FARM, Cumbernauld Station, Dumbartonshire. p.72

BEES!—Expert advice offered for 2s. 6d. Apiaries inspected and put in proper order; charges moderate. Also a few empty Hives for sale.—Apply, DAVID HUNTER, Craighead, Abington, Lanarkshire. p.54

STRICTLY BUSINESS.—Six packages Flavine, 6d.; "Intensive Bee-keeping," 6d.; a Japanned Sprayer, 5s.; all post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. p.61

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

TO CLEAR.
W.B.C. Ends for brood frames, 3s. gross.
Ditto for shallow frames, 3s. 9d. gross; postage 6d.
Sections, 4¼, two and four-way split and grooved, 100, 7s. 6d.; postage 1s.
Excluders, 2s. 3d. each; postage 6d.
Metal Dividers, for 3 sections, 2s. doz.; postage 3d.
Wood Dividers, 1s. doz.; postage 4d.
List on Application. Established 1878.
WALTON & CO.,
MUSKHAM WORKS, NEWARK.

THE
British Bee-Keepers' Association,
Insure *now* against loss by damage done through bee stings. All particulars from
W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

IN WAR-TIME

The Nation's Food is of prime importance. The products of the Apiary, of Poultry and Farm Stock, of the Fruit and Vegetable Garden can be augmented. Buy your stock, sell the produce, through
THE BAZAAR, EXCHANGE & MART
Newspaper.
Get a Copy—Thursday and Saturday, 3d.
The "Bazaar" publishes also practical handbooks by experts. Send for full catalogue, ———post free from———
WINDSOR HOUSE, Breams Buildings, LONDON, E.C.4

Seasonable Hints.

At the time of writing there is a very welcome change in the weather. The fruit trees are becoming gay with blossom, and the meadows yellow with dandelions, and the bees have been able to collect their natural food, nectar and pollen, from the flowers.

Some stocks are very strong, and already we hear of supers being put on in the fruit districts. Those who desire some surplus from this source, if the bees are not covering the ten combs, should crowd them up on to, say, eight combs, and put the supers on. The other two combs may be given later on, when the queen needs more room to carry on her own particular work of egg laying.

While the warm weather continues there is no need to feed, but should the weather again change (and there are no bounds to its vagaries) it may be necessary. Last Sunday we saw children gathering, and bees working, on the bloom of the blackthorn in the hedges by the side of the road, where less than a fortnight earlier there were snow drifts four or five feet thick. The brood nest will now extend by leaps and bounds, and a large quantity of food will be needed by the larvæ. After even one day of cold and wet the food supply may have run out.

Those colonies that have not yet the full complement of ten combs should have others added as they need more room. Where possible, give a couple of frames fitted with full sheets of worker base foundation. If half sheets, or starters are given now, the probability is that all the comb below the foundation will be drone, and later on there will be far too many drones in the hive. Some drones there must be, and the bottom corners of the foundation may be cut away, where the bees will build drone comb enough to furnish quite plenty of drones. Those who are rearing queens may desire to make as certain as possible that the young queens shall mate with drones from one particular hive. In that case, while drone breeding in all other hives should be kept as low as possible that one colony should be encouraged to rear a great number, so that the apiary shall be flooded with drones from that hive, and to that end a frame, or even two frames, of drone comb should be placed in the centre of the brood nest.

The danger from robbing, while still present, will become less as more forage is available, and the entrances of colonies that are fairly strong may be gradually extended.

A Dorset Yarn.

Our bees have come into their own again, warm, genial weather. Sunday, the 4th, brought out the drones, and sections are being filled up very fast. A rack put on some hybrids, they have fully drawn out in the week—rapid work for early May. There is such abundance of blossom everywhere, a lot of turnips in full bloom is most alluring to bees, they are with them all day till quite late at night. Pears just now are a sight, all white with blossom, some of them are scented like the hawthorn, no wonder the bees like to be with them all day, for they have so many blossoms. Some of the apples have already burst their flesh-coloured blossoms, but bees do not seem to take to the newly-opened flowers, the nectar and pollen do not seem to be advanced enough when they are first open, now with gooseberries it was different, they were on them as soon as open, but the apples and pears are not so seductive to them when first open, which proves to me that the nectar has not fully flushed up in the flower, certainly the pollen is not ripe enough for them to collect. It is a real pleasure to work between the lines, and hear the glad hum of the bees, there is a marked difference in the number of flowers on pears that are on quince stocks—that is, those that are grafted, or budded on, young quince trees—and those that are grafted on the common pear stock, the latter are not nearly so floriferous, nor do they flower when the trees are so young. On pear stocks some are many years before they show flowers at all, but when worked on the quince stock they fruit when quite young trees.

He who plants pears for profit should buy them on the quince stock, the sooner he would get flowers for his bees and fruit for sale. Cuttings from off established plants of quince are soon rooted and grow large enough to bud or graft with good sorts of pears; it is years of waiting by following this system, but the results are sure in the end, but if trees two and three years old are bought from the growers they flower the first year of planting. Bees do not despise even the black currants when going along the lines of pears, for many of them are to be seen on the newly open flowers, when one has acres of them the wealth of food for bees is immense. We have them all ages, and all

sizes, some are 5 ft. through, and others only one year's growth.

Many letters still come relating to bees on the farm; some for a course of tuition with bees. I advised them to go to Wimborne to Mr. Batson, the East Dorset expert in charge of C.C. apiary, they write now they cannot get away till July or August, but, of course, the bees won't wait for them. May and June is the time for bees, people can learn more of them in those two months than at any other time, when the sections are folded and foundation placed in position, when standard and shallow bars have to be seen to in numbers, foundation to be securely wired in each, while in July and August they will only see the harvest, still that is their look-out; to me no time is better on the farm than May and June, when the apple blossom is so abundant, when strawberries are in flower, and such a wealth of both cultivated and wild flowers.

Work on the farm this last week has been planting a field of cauliflowers, sowing peas, harvesting lettuce, and hoeing growing crops. Strawberries have to be well cleaned of all weeds before strawing them to keep fruit clean. All these look promising this year, frost has blackened a few of the blooms, but not many. The showers will make them a heavy crop.—J. J. Kettle.

British Bee-Keepers' Association.

CONVERSAZIONE.

(*Continued.*)

As a case in point, the subject of legislation has been mentioned. I find that for some unaccountable reason there are people who have an idea that the Council of the British Bee-keepers' Association have some ulterior motive behind the petition they have sent out for signature. Nothing could be further from the truth. The object ever before the Council, in all their work, is to do all they can for the benefit of the industry. Legislation will not benefit a single member or official of the Council more than it will the individual bee-keeper living right away in the country. In fact, by their work they lose instead of gain. Theirs is a labour of love, always at the expense of much valuable time, and very often money is spent from their own pockets in carrying out their duties. I am certain that 99 per cent. of the bee-keepers in this country are anxious for legislation, the petition has been sent out to test the feeling of bee-keepers on this matter. There is no Bill drawn up in connection with it. If, as I do not doubt, there is an overwhelming majority in favour of legislation, then some means will have to be devised to obtain the views of the majority of bee-keepers as to what form of legislation should be sought for from the Government. I see no reason why a congress of bee-keepers from every part of England and Wales should not meet to thresh the matter out in all its aspects. In such a case, if each one attends with the idea of working amicably on a give-and-take basis, a good workable scheme should be the result.

Another idea which is also prevalent is that an army of inspectors will be appointed to travel through the country, poking their noses into every apiary and every hive; also that there will be indiscriminate burning, not only of serviceable appliances, but also of living bees. That is not the idea of sane people. What we really want is legislation to enable us to deal with careless or unscrupulous people, and not for the careful bee-keepers. The latter do not require to be dealt with by law. For their own sakes, they see that their apiaries are kept clean and free from disease. Unhealthy bees are unprofitable: therefore, the practical man refuses to let them remain in existence.

The class of person who is often a great source of danger is one who hears about bees, thinks them wonderful creatures, becomes enthusiastic for a time, buys bees, and after the novelty has worn off they are turned over to the tender mercies of either the gardener, chauffeur, or house boy, none of which are anxious for an addition to their already multitudinous duties, especially one in which pain may also come. After a few stings have been received, the extra job is studiously avoided. No attention is given, the bees often become infected with disease, die off, and their hives remain a source of infection for the whole neighbourhood. This is the kind of thing we wish to remove by the aid of legislation, and which, I sincerely hope, will be brought about by the methods I have indicated.

If we are unanimous and go to the Government as a united force, then I am quite sure that our wishes will be granted.

What the Government aim at, is to carry out the work on sensible lines, and they do that by consulting the people who are concerned in the matter; at least, that is what I find from experience of the Government Department in which I am interested.

Take fruit growers for instance: they have been taken into consultation, and the advice which has been given by the practical man has been followed as far as possible. Our aim now at the present time is unity. If we are united, then there will be no question whatever as to the division of the counties into groups,

because bee-keepers would realise that it was being done for their benefit.

I should, before I sit down, like to say a word with regard to the Re-stocking Scheme of the Government. I want to make it just a little bit clearer to some of the people who are interested in this particular subject.

I get heaps of letters from bee-keepers, and they say, "Why introduce the Dutch bee?" The Dutch bee is a tremendous swarmer, it is not a good honey gatherer, and it is not suitable for the country.

We want bees in Great Britain, and if only the bee-keepers will read the instructions on the memoranda which the Government has sent out, they will see why the Dutch bee is being introduced into this country.

It is on account of their capacity for increasing rapidly, so that they shall be the producers of stocks to which to introduce the Italian queens, which will be bred from those that are coming from Italy. It is the Italian blood which we want in this country, and not the Dutch.

I hope I have now made that quite clear.

Mr. Prior: Mr. Herrod-Hempsall mentioned unity. Compare that with the suggestion of Mr. Judge. Would he give us his views as to whether the suggestion of decentralisation throughout the country would lead to that unity?

Mr. Herrod-Hempsall: I believe that if we get unity amongst bee-keepers, then the other things will follow as a matter of course.

Mr. J. G. Flashman: While thoroughly agreeing with Mr. Judge as to the wisdom of decentralising the work of the Association, it seems to me that at present we have no authority to carry out this work, and might be accused of interference. We should, therefore, first attempt to get incorporated by Royal Warrant, to place us in the proper position to carry out the work.

Mr. Kettle gave an interesting address, but, unfortunately, our stenographer's abilities were not such that enabled her to cope with the Dorset accent and the pace it was reeled off by friend Kettle. His plea was for propaganda work, and more propaganda on behalf of his beloved bee. He also extolled the re-stocking scheme of the Government, and said it was one of the biggest schemes we have had and would be of great benefit to the craft.

Interesting exhibits were brought and explained by their designers—Mr. Baird his new extractor, which extracts from the combs by laying them flat; Mr. Dewey a new method of wiring and fitting up frames.

Our Degenerate Queens.

The 10-frame British hive is being held responsible by Mr. Anderson* for the inferiority of our queens to some foreign strains. British bees have been accustomed to small hives; therefore it is alleged they are contented with their small homes; whereas prolific foreign strains cannot put up with our small hives, and therefore continue swarming when accommodated in them. The factor of the temperament of the strain is lost sight of when advancing such one-sided arguments. There is, moreover, evidence to show that a small hive with *almost any* strain of honey bees is more conducive to swarming rather than to adaptation. Is it not a fact that one of the artificial inducements to the swarming of bees lies in diminishing their housing room? A small skep does it; and so act the division boards when timely manipulated in the modern hive. The average British hive, no doubt, needs enlargement for various good reasons, but not amongst these is such a reason that it is so small as to indirectly contribute to the degeneration of our queens. The degeneration of many British strains is surely the result of negligence in many cases, and with this view several experienced apiarists agree.

Within recent years, however, appreciable improvement has been effected in our bee strains by the importation of reputable foreign queens. At the same time, these good efforts do not show a greater benefit because of the championship by many average bee-keepers of almost degenerate bees, on account of the general scarcity of bees in this country, and of the excessive demands on the market in spite of high prices. These good efforts are also nullified to some extent by the prevalent faulty methods of queen-rearing. An able apiarist draws attention in another periodical† to a type of habitual wrong practice consisting of permitting weak nuclei to rear their own queens. But what is worse still is the use of artificial swarms, in the absence of nursing bees, for queen rearing; of the non-trapping of brother drones when preparing virgins for mating flights; and of the general non-control of the drone element, to say nothing of the usual non-scientific ways of selection in creating im-

* Gleanings in Bee Culture, Feb., 1919, p. 104.
†Co-operative Food Culture, Feb., 1919, p. 102.

proved "hybrid" strains. No wonder that many of these do not prove to be an improvement over pure strains, but rather the reverse.

There is again the fallacious notion that a *young* queen is the essence of success. No emphasis is laid on the fact that unless such a queen is scientifically bred, especially with regard to avoiding "in-breeding," and bearing in mind judicious selection and better control of crossing, no gain is obtainable from her youth. A two years', or older, queen of good qualities would certainly be far superior to her. Hence the unqualified plea by some writers for comparatively old queens.

Re-queening in the autumn is supposed to confer on the colony a qualification for successful wintering, but surely it is clear that, unless done quite early in the fall, and unless the new queen is of special merits and will react to stimulation by active ovipositing for some time after her *early* introduction, the colony will not likely be better off than before, so far as including amongst its membership a large proportion of virulent young autumn bees, in which lies much of the secret of beneficial requeening before wintering.

The Hoarse Voice.

I feel sure that at least one other writer has mentioned before in the JOURNAL this early sign met with in "Isle of Wight" disease. I do not consider it, however, pathognomonic, any more than "crawling" is, inasmuch as any partial disability of the wings, from whatever cause, is capable of producing it; but it should suffice to create suspicion and to stimulate watchfulness. It is difficult, however, to exclude the possible affection of other voice-producing organs.

Whilst experimenting last year with outdoor feeding, I found that, on account of quarrels on the feeder between bees from different hives, a certain proportion of the bees suffered from slight wetting of their wings, but were nevertheless able to fly, although without ease, producing a *coarse sound* in place of the usual musical flight sound, however variable the tunes of the latter may be under various circumstances. Others which were less fortunate and received a full coating of their wings with syrup (which dried quickly in the heat of the sun) immediately became "crawlers" or "runners," doomed to loss, and the only way for rescuing them seemed to me to place them in a basin of water for a quick wash, and then to reinvigorate them by placing them over an absorbing material, such as a sheet of newspaper, exposed to the direct heat of the sun. Not a single loss was sustained by this procedure.

In addition to the *coarse sound* referred to (the description of which is better left to a musician), I notice that an early sign, long before crawling, is to find the diseased bees exhibiting an *irritability* of temper, when a control healthy colony of a similar strain and under approximate conditions do not show it. Curiously enough, this appears to be followed at a later stage by *indifference and sluggishness*; and at a final stage, when advanced crawling is established, by *irritability again*, with a greater inclination to sting, but differing from the first stage in being, of course, unable to attack.

Senile Decay.

In the BRITISH BEE JOURNAL for April 3 Mr. H. M. Stich draws attention to five factors which he considers of significance in relation to "Isle of Wight" disease. He patiently analyses them and asks for criticisms. It is fitting, therefore, to examine his remarks.

(1) *The Immunity of the Skep.*—This question has already been dealt with in last week's "Comments" in the JOURNAL. The new point of view which is now being raised is that in the skep sufficient stores exist at all times in spite of supering; hence the bees are not forced to overwork, and will not quickly become old and decayed, whereas the opposite is generally met with in the modern hive. Mr. Stich suggests that "Isle of Wight" disease is "accelerated senile decay of the workers brought about by overworking the colony." It would have probably been more acceptable to have suggested that "senile decay" represents one type of the disease. Unfortunately, this does not coincide in any case with the element of infection *always* associated with "Isle of Wight" disease proper, since young bees by no means generally escape from it, although presumed to be possessing more virulent natural resistance to the disease. Old working bees, if taken care of and permitted to live for a long time, are bound to become "debilitated crawlers, as they are not naturally meant to live much longer, but there is no justification whatever for considering them as suffering from "Isle of Wight" disease. We might equally consider our young nursing bees, which are unable to fly (and are bound to aimlessly "crawl" about if dropped outside the hives while manipulating the combs) as suffering from this disease. It is a different matter to suggest that such old bees are more predisposed to the disease than healthy young bees. The suggestion that nursing bees may be forced prematurely to take to the wing, even under the urgent need for food, cannot be agreed to, seeing that Nature does not provide them with strong wings during the first fortnight of their

existence: hence they can never fly before they are naturally adapted to the function of foraging. Again, it is difficult to agree that the average apiarist entirely robs the brood chamber of sufficient food during the active season, or that he does not see to its provision should natural supplies suddenly stop; or that even the bees themselves will at any time disregard their rule of always supplying a portion of each comb with stores, principally above and to the sides of the brood nurseries; or that a supered skep is at all likely to have proportionately more food (and for what reason, unless the supering is not properly managed?); or that, if entirely left alone to themselves, the bees will ever be contented with their stores or with the room available, and that they will not swarm.

Senile decay hardly exists, and I should say never exists in summer. The bees, from their own motives, prematurely overwork themselves to death, without having the chance to live long. Those which contract infection quickly succumb to it; and the menace of infection, in the presence of the compensating factor of active breeding, and in association with favourable weather for regular cleansing flights, becomes temporarily negligible. *We cannot hope for successful wintering with old bees, the lives of which may be prolonged by care, but which are bound to die in large numbers in the course of the winter, leaving the small proportion of comparatively young bees to struggle for an impossible existence.* We can hope for the survival of the colony only by having, amongst other factors, an abundance of young autumn bees, capable of resisting the hardships of winter, and naturally destined to live through it. Senile decay does not find a place, therefore, in relation to "Isle of Wight" disease, except as a predisposing factor, as generally recognised. This may be caused: (a) by rendering the debilitated bees unable to resist infection; but *in any case*, such bees are doomed to rapid extinction: (b) if old bees are predominant in a colony, the comparatively young bees, which are alone capable of survival through the winter, will suddenly find themselves (through the rapid mortality amongst the former) housed in a capacious cold room. They become obliged to over-feed in order to generate sufficient protective heat, with all the consequences of *metabolic poisoning* to follow. To this evil *infection* may be, of course, added, sealing the fate of the colony.

(2) *The Confinement of "Isle of Wight" Disease to Great Britain.*—"Isle of Wight" bee disease is truly confined to Great Britain, but only in name. I believe the synonymous term, "*Nosema Disease*" was invented in America. According to McCray and White, it is widely distributed. It occurs in Germany, Australia, Switzerland, and England at least." White, in 1914, "found the parasite *Nosema Apis* in samples of bees from a large number of the States of the United States and from Canada." It is apparent, in addition, that American apiarists are just as fond of using the term "bee paralysis" as British apiarists are of using the term "Isle of Wight" disease to cover all the disabilities of adult bees, whether infectious or otherwise. Any attempt at justified differentiation is traditionally objected to in both countries, but specially in Great Britain. As for Italy, "Isle of Wight" disease, of course, does not occur under this name, but what about the *mal de Maggio?* The partial immunity of the well-bred leather-coloured Italian bee is not disputed, but what about the defective strains which are bound to be met with in every country?

I agree that syrup feeding, except under certain conditions, does not pay economically. Scientifically, it is also objectionable. But this, again, is only a predisposing element, and not an actual cause of disease.

A large hive is certainly an advantage, as a strong colony with sufficient stores is always a good capital. It is an economical consideration as well as an important factor in successful wintering, since a big society of young bees are more or less capable of fighting harmful atmospheric conditions, although at a sacrifice. But there the value of the large hive ends. Natural hives, generally speaking, are not large. Therefore, we are not imitating Nature in advocating the use of large hives, but rather using the much-criticised *intensive method*, without which commercial bee-keeping cannot be a striking success. It should depend on over-working the bees in the season, and then on *early* re-queening in the fall, with a young, prolific queen, stimulated to active breeding, but *in adequate time*, so that a sufficiency of autumn bees may be duly guaranteed and secured *without exhaustion*.

(3) *The Prolificacy of the Queen.*—Why confine the comparison to one between the Italian and the British bees? What about the Dutch bees, which are most prolific, and yet are readily liable to contract "Isle of Wight" infection? Natural immunity and natural susceptibility should not be lost sight of in the face of the practical and experimental evidence available. The value of a prolific queen, so far as the prevention of "Isle of Wight" disease is concerned, appears to my mind to be specially manifestable at the end of

the summer, when a high proportion of young autumn bees must be secured.

As to the *advantage of the limitation of the brood as a cure for "Isle of Wight" disease*, the most feasible answer, to my mind, is that given by the official researches in *Supplement No. 10 of the Journal of the Board of Agriculture*. There it is observed that "broodless and queenless bees live much longer than the bees of normal stock, but that they quickly wear out if brood is given to them to rear. The secretion of brood-food is apparently very exhausting, and when relieved of this drain on them, the bees in a diseased hive often cease to manifest the crawling symptoms after a few days. This association of crawling with brood-rearing perhaps explains why the stock which is the only survivor in a smitten apiary is often found to be queenless. It explains, also, why the strongest stock is the first to show the symptoms in spring, and why the swarm headed by a fertile queen usually shows the disease a few days before the parent stock." In the absence of infection, such disasters do not occur.

(4) *The Value of Annual Re-queening.*—As suggested before, this lies, of course, in supplying a young prolific queen, from a selected strain, in place of the old overworked queen which at one time may, or may not, have been of equal value. In the absence of an abundance of young autumn bees, annual re-queening, for the prevention of winter loss due to disease, is a sham.

(5) *Higher Incidence of Disease Amongst the Active Foragers.*—From the foregoing remarks it is easy to understand that debilitated over-worked bees that have contributed a big surplus (and which need not be necessarily appreciably old) are more prone to infection. Old bees are, under all circumstances, entirely unsuited for wintering.

Mr. Stich talks at the end of his article of "Isle of Wight" disease as an infection. This impression is not to be gathered from his introductory remarks, and I rather suspect that some words must have been dropped in printing, and that he is possibly aiming, after all, not at disputing the present knowledge relating to "Isle of Wight" infection, but rather at emphasising that "senile decay" predisposes to infection. "Overwork and exhaustion" would probably have been a better expression. But this, in any case, can hardly be called a new theory to be opposed by some orthodox apiarists; and, if my explanation of a misprint is correct, it would not be fair to agree with some readers of the JOURNAL who thought his article contradictory.

A swarm, whether natural or otherwise, consists of old bees unfit for nursing. Hence they readily become exhausted from brood-rearing, and contract the infection, or yield to it, if previously associated with it. Therefore, I quite agree that it is unscientific to rapidly engage a swarm of bees in brood-rearing. They may be "carriers" of infection and able to resist it, but directly their stamina is lowered by excessive wax secretion and brood-rearing, their safety is jeopardised. It appears to me equally unscientific to hive a swarm on frames fitted with sheets of foundation, instead of on a few empty drawn-out combs, and with, say, one honey comb. Nursing bees should also be supplied in the shape of a comb of rapidly-hatching brood with its adherent bees, which can be easily united to the hived swarm by the aid of the sprayer. For these reasons, it is questionable, so far as disease prevention is concerned, that a swarm of bees, however cheap, is a better investment than a prosperous colony possessing an appreciable proportion of young, vigorous bees.

Notes from South Wales.

It may interest the readers of THE BRITISH BEE JOURNAL to hear how the bees have fared during the past winter in South Wales. I made a tour around this district on Easter Tuesday to see how they had wintered, and I am pleased to say that there is a great improvement to what it has been other winters, and the losses are very few. Most of the bees seem to be very short of food, and will welcome a spell of "bee weather," to replenish the larder. On the whole stocks are fairly strong, and I saw on my round the bees of one hanging out in front getting ready to swarm, so I advised the lady owner to put on a box of shallow bars, so as to give them something to do and not waste their time and also hers watching for them to come out. I was quite pleased to see such a splendid stock, and if managed rightly they should do well this season.

The season is very backward. As a rule it is very much later here than up in some parts of England, and I noticed in Mr. Kettle's "Dorset Yarn," that he has supered some of his stocks, whereas most of the stocks around here do not cover more than about six combs, but our honey flow lasts just as long, if not longer, than some of the earlier districts, but when one reads of such early supering, it makes one think that one's own stocks are weak, or that the queen is failing. I had a stock under my care this spring that was sick, and I put it down to "Isle of Wight" disease, but it was different from what I

had ever seen before. I watched them every time that the bees from other hives were flying to see if any of them flew, as not one of them had done so, to my knowledge, since disease broke out among them in February, and that is where it is quite different to what I had ever seen before, for there are always some bees in the hive that can fly, and, apart from that, there was no excreta about on the alighting board, and the abdomen of the bees was quite normal, and not swollen, which is usual in "Isle of Wight" disease, and if one was squeezed just a small bit of dark fæces, about double the size of a pin's head, would be found in the intestines, and not like the usual symptom when the intestine was full of fæces. Their wings were not out of place, and if anyone went and looked at the hive when there were no bees coming out, I am sure that they would never detect disease, for everything was so clean outside and in, but have a look when the poor little things were trying to fly, and the ground would be covered with crawling bees. There is another thing which is also different, and that is, that one would not see a bee out, or coming out, unless the weather was suitable for bees to fly, whereas in the "Isle of Wight" disease that I have had, and seen before, they were always coming out and crawling about whether the weather was suitable or not, and the alighting board would be covered with excreta and the inside of the hive as well. It would be interesting to know if your readers have seen anything similar, of course, it was branded "Isle of Wight" disease, whether or not.

I have a friend that was a great bee-keeper in Somerset, and he owned about 65 hives, and had kept them for over 30 years without any losses except through loss of queens, and sometimes, a case of foul brood. He never did anything in the way of using drugs, or anything else like we are doing at the present time, and I don't suppose that he ever changed their combs all the time that he was keeping them, but always had a good honey harvest, and kept a record year after year of the honey that he had from them, but when the "Isle of Wight" disease came about it cleared them all out except one stock. It was a tremendous blow for him, as he was getting his living from them, and he was getting on in years which made it all the worse. What I can't understand is this, that we do everything in our power to keep them clean, and dry, and plenty of warmth, but yet lose them more or less every year with the "Isle of Wight" disease. The stock that I mentioned above had a young queen with them, but as there was another lot in the apiary that was queenless, it was decided to put her in with them; she has been in about a month, and there are plenty of young bees hatched from her, and she has got three frames full of brood, so I am watching them very closely to see if the young bees will be affected like the others were, if so they will not be able to fly on their first flight, as there must have been young bees in the hive that could not fly, for they were very strong, so if they are able to fly, it will prove that the queen is not at fault, and the only thing that would be the cause is the honey that they were eating, but I will report later on which way it turns out. The Dutch bees have arrived here for the restocking of the county, Glamorganshire, and they arrived quite safe. They were packed fine, and not a bee could have escaped if they had come double the journey. I am pleased to say that they are very strong and look very healthy, and hope that it will be the means of keeping the "Isle of Wight" disease away. I think we have had quite enough of that, and I am sure that we should all be pleased if we could keep our stocks and record of honey harvest for over 30 years without much loss. Wishing all brother bee-keepers a prosperous honey season—E. Boobier, Valley Apiary, Bishopston, South Wales.

Notes and Comments.

The years of exile have come to an end at last, and I have once more returned home—though, alas, not to bees.

I intended to have sent you occasional notes during all this time, but we in Macedonia were, at least in the early part of the campaign, in a singularly isolated position. Often enough it was impossible to obtain paper to write upon, and transport was so bad that we were frequently restricted to writing one or two letters only per week. The one or two items I *did* send appear to have "gone west," for I have not come across them in the back numbers I have been browsing in since I came back. [We have not received the articles.—Eds.]

In endeavouring to follow up the development of bee matters during my absence, I have been wading steadily through the consecutive numbers. Having arrived at the end of 1917, it seems a propitious moment to make a few comments on the matters which have most impressed me.

First comes the weekly "Yarn." I am sure I do not pay too high a compliment when I say that no one, except the lamented "Lordswood," has ever provided us with such delicious matter for rumination. I hope Mr. Kettle will reconsider his decision, and take steps to get this matter put up in permanent form. When things get a little more "reconstructed"

than they are at present, he ought not to have difficulty in finding a publisher who will relieve him of the necessity of finding money as well as talent to achieve this. The suggestion that such a work should be illustrated is excellent, and if any of my poor photographs, whether of bees or flowers, will assist to that end, I shall be only too happy to contribute.

Why apologise for saying so much about flowers and fruit? It is impossible to separate flowers from bees, and fruit from flowers. Mr. Kettle is not likely to stray far from the things which interest all bee-keepers, even though it be Socialism he descants upon. Go on and prosper.

Returning to other matters, I was amused by the inglorious exit of Mr. Heap. Even at this distant date I am malicious enough to feel some satisfaction at having myself smitten somewhat more lustily than I am wont in the beginning of that fray.

The "Isle of Wight" disease seems to be with us still, and to evoke a perpetual crop of remedies, all of which seem to follow the usual course, a certain number of cases proving amenable and others failing to respond. I feel that there ought to be some significance in this fact, but what it is I am not inspired to know. We can only keep on keeping on trying, and some day we shall win. Here, again, one feels a measure of satisfaction that the official high and mightiness, not to mention superciliousness, has fizzled out in a tacit confession of failure.

The matter of standard hives has naturally interested me. Candidly, though I see the advantages quite clearly, I do not see any great likelihood of its ever coming about. The very obviousness of the advantages, combined with the fact that in no rural industry has any measure of standardisation been introduced, prove that there is something diametrically opposed to it. After all, Nature herself does not standardise things. She never makes two alike, in fact, and it is certain that a rigid standard would to some considerable extent check improvement.

For instance, supposing A buys a hive—his first. When he buys his second it differs from the last. He likes some points in the first best, and others in the second, and he resolves that his third shall have the best points of both. That is more or less the way in which my apiary grew up. There is, again, the absolute necessity of frequently having to make shift. No one can keep stocks of hives in hand waiting for unexpected swarms, and they often have to be hurriedly knocked up from any old wood. I do not see that there would be a great advantage from interchangeability of outer cases, at any rate. The only time it serves any purpose is in the case of a stock requiring an exceptional number of supers, and in such circumstances I don't think anyone will mind the trouble of wrapping up with a cloth, even if necessary, which at that time it rarely is.

I think I have said enough for a start. Later, Messrs. Editors, I may perhaps say something—it is not a great deal—about bees in the East. But not at the expense of the "Yarn," please.—HERBERT MACE.

Jottings.

THE BROOD HATCHING CHAMBER.

Were it not for the courtesy and explicitness of Dr. Abushady's further article I would not reply, as with him I agree it can serve no useful purpose to be continually covering an argument with "forms of words." Anything of a destructive nature was, of course, not to be thought of, or intended. I still think that although he claims to most "modern apiarists" this would be a simple device, the comparison I set up with an ordinary lift, and which might be used with a greater degree of security to those that I think are in the majority, namely, the small apiarist, who, while keeping bees for a pleasant and recreative purpose, generally demands a show of profit, and often indulges in all sorts of fads and schemes, for the simple reason of having something new, without due consideration for its real use and purpose. Whether this, or any other kind of extra brood chamber is used, the colony must be prepared and grow up to that standard, either in a "wait and see" manner or by scientific endeavour, which is at the same time liable to failure, through climatic intervention. To reach this, and to feel any appreciative results, one could not have less than five frames of comb, hence my supposition, it might rarely be possible to lift "five frames of capped brood," without this porportion of immature brood, with a sufficient supply of food of a suitable kind, and it is worth considering whether a sufficient number of nurse bees would stop and see these through, and this is all in a measure a system of preparation for the hot season, or it would be too late, so the heat, bees, and all energy must be turned towards the supers, where it is not quite so hot, at this early time. I, personally, have noticed that a proportion of new honey gets into the top of combs at early season, and gradually gets added to, whether the stock be forward, medium, or backward, and as stated, especially if supers are available or not. I don't believe I termed this appliance "useless," neither did I qualify the reader, and whether it is superfluous or presumptive on my part, I still think there are lots of technicalities

regarding seasons and time for all manipulations, that are not considered as they deserve and they result in failures, which are ascribed to "Isle of Wight" disease. I fail to see that although "there are no articles in its composition which have not been tested," if used collectively, for some new purpose this can always be a guarantee of its acceptance and simultaneous usefulness. Therefore I feel quite justified in drawing, this comparison with a lift, that can be used without the risk of chill or starvation, and automatically becomes a super for surplus or for any other purpose of extra brood requirements, and which needs no loose or component parts, and will fill most of the purposes enumerated as well, and provides a resting place for the extra strong colony, at the same time maintaining a more even temperature when nights are cold. I think the right proportion will work when hot. I have not the slightest wish or desire to obstruct, and do not look with suspicion on new things, hence these searching remarks, and, while admitting again, its uses and place with the large apiarian, in the interest of the average bee-keeper, whom I unfortunately styled "unwary," I am content if they will only think and see that one must do more than rely on *any contrivance* to secure a strong colony, without due consideration and a set-out plan, with simplicity of action for preference.—A. H. HAMSHAR.

CORRESPONDENCE.

First Report of a Swarm.

[9912] Having been demobilised from H.M. Forces after four years on the Western Front, I have made a fresh start at bee-keeping, and hived my first swarm on Friday, May 9.—JACK L. TICKELL, Cheltenham.

Do Queens mate in the Hive?

[9913] I am amazed at the widespread belief that queen bees can only be mated on the wing. I never did entertain that belief, and the following case is proof of my conviction:—Eight or ten years ago, near the end of the season, one of my queens became exhausted, and according to instinct before total exhaustion, the bees commenced to raise some young queens to perpetuate the species. As soon as I discovered this, I removed the old queen, destroyed her, and allowed a young queen to hatch. Well! I can positively affirm that for some days previous and for weeks after the hatching of the young queen, the weather was so boisterous and stormy without cessation, that never a bee dare point her nose out of the hive. However, I had always good faith she would get fertilised all right inside the hive, so to make sure, I inspected the hive the first opportunity after the stormy weather, and found the young queen, not only fertilised, but breeding immensely. I sent an intimation of the fact to THE BRITISH BEE JOURNAL at the time. Dr. Abu-hâdy and F.L.W. please take note.—DAVID HUNTER.

Notices to Correspondents.

MISS LAMB (Hartlepool).—*Dismembered bees in front of hive.*—The Tomtits are most likely responsible for the dead bees.

J. PRYDE (East Lothian).—*Dealing with skep.*—If you wish to work for increase follow the plan given in this column on February 27 in reply to W. J. R. You could introduce a new queen to the skep through the hole in the top, by means of a Raynor pattern queen cage.

W. A. DANIELS (Chigwell).—*Reason for replacing Dutch queen.*—(1) Dutch bees are prone to excessive swarming. (2) Requeen soon as possible. (3) No.

A. TAIT (Brixham).—*Bees expelling drones.*—We cannot say why this is being done now, unless the bees are short of food.

Suspected Disease.

"SIGMA" (Dorking).—The bees were too dry for diagnosis. If you use the combs, first soak them for several hours in a solution of disinfectant and water.

J. P. (Hull).—The comb contained both sour brood and foul brood.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of April, 1919, was £45,811.—From a return furnished by the Statistical Office, H.M. Customs.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 11 and 12, at Truro.—Royal Cornwall Show. Five Open Classes for Honey of any year. Schedules from Miss Alac Buck, Bosvigo, Truro. **Entries close June 4.**

June 24 to June 28, at Cardiff.—Royal Agricultural Society's Show, Bee and Honey Section, under the direction of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from The Secretary, 23, Bedford Street, Strand, W.C.2. **Entries close Monday, May 26.**

July 23, Wyke and Normandy Horticultural Society Flower Show.—Open Classes for Section and Run Honey. Section honey prizes, 5s., 3s., 2s.; run honey (1919), 3 1-lb. glass jars, prizes, 5s., 3s., 2s. Entrance fee, 6d.—Hon. Sec., H. S. Mumford, Heatherside, Normandy, near Guildford

Special Prepaid Advertisements.

One Penny per Word.

PRIVATE ADVERTISEMENTS.

FOR SALE, five Stocks Italian Bees, £4 10s. each; W.B.C. and other Hives, Supers and other Appliances. Full list on receipt of stamped envelope.—RICHARDS, 82, Grosvenor Avenue, Carshalton. q.44

FULLY equipped Apiary for Sale; eight Stocks Italians, 20 Hives, Extractors, Ripeners, etc.; guaranteed free from disease; £50, or will divide. Full details and appointment made on receipt of stamped envelope.—COLGON, 48, Palatine Road, Northenden, Cheshire. q.45

THREE Queen Excluders, 5s.; four double-walled Hives, 21s. each; Cottage and one acre, fruit trees, fowl houses, etc., £310.—CRACKNELL, Bell's Lane, Hoo, Kent. q.46

FOR SALE, a portable Bee Hut, with window and locked door, and 15 exceptionally well-made W.B.C. and Combination Hives, with oak legs; also a Bee Hut with window and locked door and 20 W.B.C. and Combination Hives; also 50 surplus Chambers and 50 Queen Excluders. All can remain in position if required.—"H.," B.B.J. Office, 23, Bedford Street, Strand, London, W.C.2. q.47

FOR SALE, three four-frame Nuclei (Italian), 1918 Queens, immediate delivery, £3 3s.—PEARS, Woodside, Scotby, Carlisle. q.48

FOR SALE, two Stocks Bees, one pure Italian, one Hybrids, on 10 frames, 1918 Queens, warranted healthy, £3 10s. each, in carrying boxes; carriage extra.—CRUICKSHANK, Stationmaster, Grantown-on-Spey. q.49

FOR SALE, 1918 Fertile Queen, hybrid, 8s. 6d.—AYERS, 77, Lordship Lane, Dulwich. q.50

WANTED, Stock, Swarm, or Nucleus, pure Italians; delivery not later than June 21.—Price and particulars to STEPHENSON, Denton Park, Ben Rhydding, Yorks. q.52

30 MORE Super Boxes at 2s. 6d. for three to clear. — W. H. HEATON, Methwold, Norfolk. q.53

COMPLETE APIARY FOR SALE.—Geared Extractor, 12 W.B.C. Hives, eight good Stocks of Bees, Simmins', Italian and Hybrids, July, 1918, Queens, 150 good Standard Combs, 5o Frames and Foundation, £60. Bees alone 15s. per frame; brood all but outside combs. Owner moving. Inspection invited.—Box 17, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. q.54

"GLEANINGS in Bee Culture," 71 numbers, from 1905 to 1910; 17 "Bee Chats." What offers?—D. COLE, Mill Hill, Cuxton, Rochester, Kent. q.55

FOR SALE, Stock of Bees (hybrids), strong, 1918 Queen. Offers. Delivery in London.—"J.," B.B.J. Office, 23, Bedford Street, Strand, W.C.2. q.56

56 LBS. First Grade Honey, 2s. per lb.; 14-lb. tin, 30s.—NORTH, Cressing, Braintree. q.57

WANTED, a Stock of healthy Bees.—Particulars and price to BARLEY, 69, Manor Road, Richmond, Surrey. q.58

FOR SALE, several good W.B.C. pattern Hives, made from ⅞ in. by 9 in. stuff, double walled, 25s. each, or exchange for bees in skeps or swarms.—CURTIS, The Limes, Holbeach. q.59

SEVERAL stocks of Bees, in home-made hives, for sale.—REVELL, Charlotte Cottage, New Road, Beehive, Ilford. q.60

STRONG, healthy 8-frame Stocks, Italian Hybrids, 1918 Queens, May delivery; £5 each, carriage paid; boxes to be returned.—MAGSON, Kirkham, Lancashire. q.61

W.A.D. requires experience on bee farm; board or salary in return for services.—66, Mt. Pleasant, Tunbridge Wells. q.62

SUBSTANTIAL W.B.C. hive (newly painted) body, box and two shallow lifts; £1 1s., carriage forward.—FIELD, Rockmount, Baildon, Yorks. q.63

WANTED, strong Swarm, early; Italian Hybrids preferred. State price.—H. COOPER, 118, Birchfield Road, Northampton. q.64

WANTED, by King's Lynn and District Bee-Keepers' Association, for restocking apiary, six stocks Italian or Hybrid healthy bees.—Price to JULIAN LOCKWOOD, Expert, Hunstanton. q.65

6D. each offered *B.B.J.* July 18 and September 19 of 1918.—COWLING, 5, Old Dover Road, Canterbury. q.66

FOR SALE, Two stocks Hybrid Italian 1918 Queens, on 6 combs, strong and healthy.—Box 18, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. q.67

QUEENS, 1918 (Italian preferred), wanted at once.—SMITH, 11, Woodbeck, Retford. q.68.

WILL experienced lady help another lady with bees in exchange for two weeks' holiday?—E. ALDRED, The Oak Bungalow, Heathfield, Sussex. q.69

FOR SALE, stock of black bees, on 10 combs, with Lee's Holborn hive, packed, and free to Radlett station, M.R., £6 10s.—HARRIS, Station House, Shenley, Barnet. q.70

WANTED, a young lady to look after bees and poultry, and willing to do general garden work with two gardeners.—MRS. ROBERT BIRD, Solihull, Warwickshire. q.74

BELGIAN HARES for sale, 8s. 6d. each. Father sired the Belgian winner, sold for £19, in last Birmingham Show.—MRS. R. BIRD, Solihull, Warwickshire. q.75

WANTED, to buy or rent from June 24, Small House, preferably detached, with large garden or land up to 10 acres; furnished, or unfurnished; within about one hour City. Cash waiting; no commission to pay.—Full particulars, giving altitude, distance from station, to "Buyer." at HORNCASTLE'S, 60, Cheapside, E.C.2. q.38

WANTED, to rent for one year, with option to buy, Cottage and about 4 acres of land suitable for fruit, bees, and poultry; if possible with accommodation for general stores or tea shop. Land must be sandy.—"F.," B.B.J. Office, 23, Bedford Street, W.C.2. p.34

THE BEE-KEEPERS' RESEARCH UNION require gifts of Diseased Bees for experimental purposes.—Particulars, in first instance, to PEIRCE, Tudor Hill, Sutton Coldfield. q.16

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows

HAVING sold our White Star stocks, we offer a number of Hybrid Italian and Hybrid Dutch 6-frame stocks at £4 10s., carriage paid, June delivery. Splendid value. Ready for supering within week of arrival. Book now. Cash with order.—PEARSON & GALE, Marlborough. q.72

STRICTLY Business.—A free sample of Flavine, the "Golden" Circular, Testimonials, etc., sent to any interested bee-keeper on receipt of a stamped addressed envelope. A japanned sprayer, 5s., post free.—S. H. SMITH, 30, Maids' Causeway, Cambridge q.73

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . In a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

ITALIAN BEES.—Strong 3-frame nuclei for sale; May delivery, £3 3s.; June, 50s.; 4¼ split sections, 8s. 100 free. Stamp reply.—BOWREY, Swallowfield, Reading. q.71

NUCLEI.—A few 3-frame Nuclei (hybrids), with young fertile Queens, June delivery, £2 10s. Cash with order.—Box 16, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. q.51

1919 IMPORTED Golden Italian Fertile Queens.—Orders booked and executed in rotation. Regular supplies throughout the season Price 14s. 6d.; specially selected, 17s. 6d. Cash terms. Stamp for reply.—GOODARE, New Cross, Wednesfield. q.49

50 3-frame Nuclei of Dutch and Dutch-Italian with 1919 fertile queens, June delivery, £2 5s.; also 4-frame Nuclei, end of May, £3 3s.; carriage paid. Can take orders for Fertile Queens, end June; price 10s. 6d.; Virgins, 5s. Cash with order.—SEALE, Hardumont, Oatlands Drive, Weybridge, Surrey. q.43

GET-A-HUSTLE-ON.—To B. and millions of B's if you rear queens and use our right up-to-date Appliances. Kat-a-log free.—MEADOWS, Syston, Leicester. q.21

BEES!—Expert advice offered for 2s. 6d. Apiaries inspected and put in proper order; charges moderate. Also a few empty Hives for sale.—Apply, DAVID HUNTER, Craighead, Abington, Lanarkshire. p.54

EDINBURGH AND EAST OF SCOTLAND COLLEGE OF AGRICULTURE.

APPLICATIONS are invited for the post of Assistant Instructor in Bee-keeping at a commencing salary of £100 per annum, with war bonus.

Letters of application, accompanied by two copies of not more than three recent testimonials, should be sent to the undersigned not later than May 31. A. McCALLUM, Secretary.

13, George Square, Edinburgh.

TO CLEAR.

W.B.C. Ends for brood frames, 3s. gross.
Ditto for shallow frames, 3s. 9d. gross; postage 6d.
Sections, 4¼, two and four-way split and grooved, 100, 7s. 6d.; postage 1s.
Excluders, 2s. 3d. each; postage 6d.
Metal Dividers, for 3 sections, 2s. doz.; postage 9d.
Wood Dividers, 1s. doz.; postage 4d.
List on Application. Established 1878.

WALTON & CO.,
MUSKHAM WORKS, NEWARK.

HIGHLAND AND AGRICULTURAL SOCIETY'S SHOW AT EDINBURGH, JULY 8-11.

Entries close for STOCK, &c., on 29th May.

Forms from JOHN STIRTON, 3, George IV. Bridge, Edinburgh.

"I.O.W." DISEASE.

No Bee-keeper should be without Allsopp's B'kure Powder to *prevent* and cure "I.O.W." disease.
One of many testimonials :—
"I have used your B'kure Powder for the last two seasons with great success."—T. C. TRIBBLE, Moreton House Gardens, near Dorchester.
Price 2s. 6d. per tin, postage 6d. Full directions on tins.

J. C. ALLSOPP,
87, GERTRUDE ROAD, WEST BRIDGFORD, NOTTINGHAM.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

The Flavine Treatment.

Unsolicited Testimonials received from grateful Beekeepers --

Last July a neighbour hived a swarm in a skep. In a week they were crawling in hundreds. I gave him a package of Flavine, which he dissolved in a pint of water and poured between the combs. After another dose the crawling stopped, and the colony is alive to-day. You may use my name. E. R., Callestick.

I cured three stocks with Flavine last spring, but one I had not treated started crawling late in October. I poured Flavine syrup between the combs, and after once repeating the dose have seen no "crawlers" since. I am very grateful to you, as that hopeless feeling has now disappeared.
R. F., Chapeltown.

Since using Flavine I have had no sickness in my apiary. I tried it for the first time last spring, and one dose cured a stock suffering from dysentery.
C. E. T., Longfield.

I often think of the very pleasant time I spent at your apiary. I have not seen any signs of disease since I started spraying with Flavine. A. E. R., Saffron Walden.

Flavine — good. That's my verdict. Should anyone in this neighbourhood want to know about Flavine they can have it from me. J. F., Guildford.

Your most excellent Flavine treatment certainly cured my bees of disease, also those of my brother. F. H., Trowbridge.

I thought all the bees around here would go under, but there are no signs of trouble now since using Flavine.
H. B., Lymington.

I have had practical experience that Flavine does stop disease. One stock had it badly, and after spraying three times with Flavine solution not a crawler has been seen since, and the stock is going ahead well.
Miss L., Tenterden.

Flavine has proved by far the best remedy for combating "Isle of Wight" disease I have tried. Thanks to it my two stocks, reduced to a mere handful of bees, became two good stocks. E. B., Evesham.

One word about Flavine. I wish to say I never saw anything like it to produce quick results. J. S. Newton, Poppleford.

Your Flavine treatment has been a blessing to me. My stocks are now all free from "Isle of Wight" disease.
W. J. C., Andover.

Crawling ceased after using Flavine. I then used an extra brood chamber, full of combs from stocks dead of "Isle of Wight" disease. I extracted 50 lbs. of surplus honey from this lot, and left plenty for wintering.
E. H., Barrow-on-Furness.

A friend of mine has as much faith in Flavine as he has in Lloyd George.
R. E. P., Carnarvon.

To sum up. I had three stocks, two hopeless. Owing to Flavine I have now six healthy stocks. Strike my name off the list of Discouraged Bee-keepers.
E. J., Walsall.

From the Annual Report of the Somerset B.K.A. :—

Many of our members experimented with Flavine during the past season. Most satisfactory results accrued from its application in spring and early summer. Stocks that were undoubtedly suffering from the disease recovered in a remarkable way, and many gave a large amount of surplus or increase. In some cases, but not in all, however, the disease reappeared in late autumn, but should these stocks survive until next spring further experiments with Flavine will be tried. L. Bigg-Wether, Hon. Sec.

Birdwood, Wells, Feb. 8, 1919.

Despite correspondence of an unfavourable nature printed in the *B.B.J.* I shall continue to place my faith in Flavine.
F. B., Bournemouth.

I have not seen any signs of trouble since using Flavine properly.
C. T. U., Northampton.

I meet and hear of many people who think "the whole world" of Flavine.
H. T., Enniskerry.

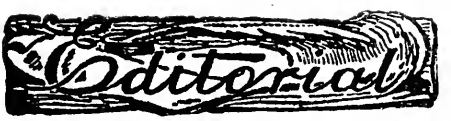
My bees are all healthy after treating with Flavine, while most people around here have lost theirs. S. R., St. Ewe.

Crawlers were in considerable numbers in front of one of my hives. I thoroughly sprayed with Flavine, and in a few days crawling had ceased, and the colony became one of my strongest stocks.
H. C., Desford.

No bee-keeper should be without Flavine. It has been of the greatest benefit to my bees. E. H., Berwick-on-Tweed.

Compliments of

S. H. SMITH, 30, MAIDS' CAUSEWAY, CAMBRIDGE.



The Royal Show.

The British Bee-keepers' Association are very anxious that the honey department of the Royal Show should be a success, and we urge all who can possibly do so to make an entry. The closing time for entries, May 31, is drawing very near, and up to the present the number is very disappointing. As the closing date is so early, we are aware that entries for honey have to be made on trust, but rule 9 provides that: "In the event of the exhibitors of honey of the current year not being able to send their exhibits owing to unfavourable weather for honey gathering, the entrance fees will be returned, providing that six clear days' notice has been given of their inability to send these exhibits."

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, May 15, 1919.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. G. Bryden, W. H. Simms, F. W. Watts, T. Bevan, G. R. Alder, C. L. M. Eales, G. S. Faunch, F. W. Harper, J. Herrod-Hempsall, J. Smallwood, J. B. Lamb. Association representatives: R. R. Babbage (Middlesex), Major C. C. Lord (Kent).

Letters of regret at inability to attend were read from Sir Ernest Spencer, Messrs. T. W. Cowan, A. G. Pugh, and H. Samways.

The minutes of Council meeting held on April 17, 1919, were read and confirmed.

The following new members were elected:—Mrs. J. M. Anderson, Mrs. J. G. Barnes, Miss L. M. Lea Wilson, Miss F. M. Cardale, Lieut.- Commander R. F. Veasey, Messrs. J. Duffy, A. Parker, H. M. Pitcairn, W. Jones Hughes.

Application for affiliation was made by the Hampshire and Isle of Wight, Cornwall, and Twickenham and Thames Valley Associations, and all were accepted.

Representatives nominated by affiliated Associations and accepted: R. W. Furse (Devon), A. F. Hardy (Hampshire and Isle of Wight), W. W. A. Deterding (Norfolk).

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for April amounted to £21 6s. 7d. The bank balance on May 1 was £174 19s. 8d. Payments amounting to £50 were recommended.

The Cheshire, Somerset, and Aberdeen Associations applied for Preliminary Examinations, and all were granted.

It was resolved to participate in the Exhibition of Science as Applied to Industry, at the Central Hall, Westminster; also to hold a Conference of Bee-keepers, with a paper by the Secretary.

Next meeting of Council, June 26, 1919, in the Hives and Honey Department, Royal Show Yard, Cardiff.

DONATIONS FOR THE ROYAL SHOW.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

	£	s.	d.
Amount already acknowledged	22	6	0
Mr. H. W. Anderson...	0	10	2
Sir W. Egerton ...	0	8	3
Mr. C. W. Dyer ...	0	2	6
	23	6	11

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London County Council Park, Golders Hill, London, N.W., on Fridays, June 6, 13, 20, 27, July 4 and 11, at 6.30 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to

W. Herrod-Hempsall,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

A simple "chat" on bees will be given free, at 3.30 each afternoon before the lectures.

A Dorset Yarn.

Our bees this last week have been having a fine time. All of them are now drawing out sections at a rapid rate. Only one ("Hybrids") have entirely filled the first rack; others are given beneath, so that there should be no lack of storing space

for them to fill. They have had huge trees of sycamore and wild cherry for a week: they flew away from the farm; but yesterday their flight was reversed—all seem to fly by the barn towards the apple blossom. It is remarkable to me that they should mostly go one way. It is easy to see the direction that our bees fly, as there is a background of buildings which makes them easily seen.

Apple blossom is everywhere abundant. Our lines of different sorts are very beautiful, as some are fully out, and blossoms are a bit pale in the sun; but the later ones opening have more rose-coloured petals: all adds to the beauty of the whole. No wonder Ruskin went into raptures over their transcendent beauty. All is so ephemeral—a short time a forest of blossoms, and then the petals all blown off on the soil, but the rosy-coloured petals attracted insect life to them, and their mission of beauty has had its reward by the fertilisation of the organs of reproduction.

Jargonelle pears are a heavy set; Louise Bonne of Jersey are showing the perfectly involuted blossoms, as the fruits have already their coloured coatings that are on them until ripe. Plums and cherries are already showing the green parts of perfect fruits. All is showing great promise. The wind did most for the plums, but bees did their share with the pears.

Bees are very peculiar in their likes and dislikes. I have a long line, 150 yards long, of Limnanthes Douglasii (seeds sent by Mr. Harwood), which were sown last October. For three days not a bee was to be seen on it, and after that only a few, yet I have seen this same flower in years gone by with many thousands of bees on them, so many that they have kept them from being gathered in the day time. The pickers were afraid of the bees. At our farm there are so many other sweets for them just now; that is why those that keep bees near orchards have such a better chance of success, as there is such an abundance before the clover harvest comes.

There is one thing about Limnanthes: when once it is on the land, it seeds so abundantly that some is sure to escape the hoe, and will flower in other seasons. To those who are short of early flowers for bees, it is a fine thing to carry a great weight of flowers. If sown August and September, it gives its great wealth of blossom at a good time for bees. Ours were sown late, but they are very hardy; frost does not kill them off as easily as other flowers.

Visitors still come to see the farm and the bees. Each week brings someone. Most of them are people of leisure; but having the love of bees makes them not above seeing the writer of bees in Dorset. To me it shows that the readers of the JOURNAL are getting on in numbers. One writer to me says that I am "booming the farm in order to sell it." It is not so, as by far the greater part is not mine to sell; one would not inflate that which one would have to purchase, one can only write of what one sees around—it must of necessity be of the farm and the flowers one sees every day. Our bees are a great asset to the farm, even if they only bring such delightful people to see them. We do not expect to get so great a profit from them this season, as we shall have to pay out more; one case of sections already and foundation; new bars and brood foundation will make a heavier column on the expenses side. It has been a light column for two years, and we have two stocks of blacks at £5 each to begin with, but these two are very strong, and have each nearly completed the first rack of sections. They look like doing three others. We have only one natural swarm from ours; that was a very heavy lot, and swarmed out into the high road on some brambles; was afraid to leave them there till evening, so at once carried them in and placed before them an empty hive, already prepared for early swarms. The large skep was three parts full, and having to carry it with the bees crawling over the arms and face, it was a rather ticklish time when they crawled over the nose. They travelled in and out of the hive all day till the evening; but at 9.30 had to jolt the whole lot out of the skep, and then they went in very fast. Have also one migratory swarm that had been travelling about for a week, resting in different places, the last resting place was in a hedge with wire netting grown in; it was impossible to shake them, and too many thorns for me to do much. I gave the wire netting a sharp kick and placed the skep on them when on the ground among the ivy leaves. They were carried to the farm in the evening, and given a good home. The queen was a very small one. She did not like the idea of the hive; she was a long time before she would go in. I several times pushed her toward the entrance with finger, but each time she went back. The last time she took flight round and round the hive; one could hear her song as she came round each time. At last she went back into the skep that was by the hive. The few bees and queen were once more jerked out on to the front, and this time she went into the entrance in a great hurry. This swarm had been seen in the village at different times, and I presume was making for the woods, resting at different places.—J. J. KETTLE.

The Exclusion of Avitaminosis.

Attention was directed by the writer to the significance of the *vitamines* in the bee's diet in the BRITISH BEE JOURNAL for October 24, 1918; also in *Co-operative Food Culture* for November, 1918, and February, 1919; and in *Bee Craft* for May, 1919. I suggested the possibility of a form of disease or devitalisation resulting from feeding the bees on a diet which is lacking in these bio-chemical substances, with the result that the bees would probably become more predisposed to infection, apart from the possibility of an initial illness due to such a poor diet, which cannot be compensated for during winter in the absence of fresh natural food. On scientific grounds it is therefore advisable not to feed the bees on an artificial food lacking in these elements. It should be compensated for, preferably from a vegetable source, considering that the honey bee by nature is a strict vegetarian. This important point has been also an influencing factor in my selection of a suitable antiseptic for prolonged and concentrated internal administration, if necessary.

Whilst highly suspecting a harmful result from the absence of *vitamines* from the bee's diet, it is difficult to directly associate this with "Isle of Wight" disease proper, or with foul brood, in view of the established infectious nature of these diseases. We have therefore to deal in this case only with a factor of *predisposition*, but this is by no means insignificant. So far as foul brood is concerned, it is needless to mention that the season of incidence coincides with the time when natural bee food rich in *vitamines* is available.

Damp Hives.

Before trying to remedy the dampness of the hive in winter, we ought to understand its causes. These may be divided into external and internal. (1) Provided the hive is well constructed and painted, as well as supported on damp-proof stands, the *external* source of dampness will be limited to damp air passing through the entrance. Hence Dr. Phillips's method of contracting the entrance in winter as a preventive from dampness. This applies both to indoor as well as to outdoor housing, since, in the former case, a damp room is equivalent in practice to a reservoir continuously supplying damp air to the inmates of the hives therein accommodated. Artificial heat for the purpose of aiding ventilation will no doubt be an advantage in this case, but it is necessary, of course, to apply it to a selected spot in the room and to avoid an excessive rise of temperature; a regular temperature of 48-50 deg. Fahr. will probably be ample in the majority of instances. Needless to say, unless indoor wintering is a necessity as a protection from severe cold, it would be far wiser to accept outdoor wintering in a mild cold atmosphere rather than indoor wintering in an excessively damp room. (2) The internal causes of dampness are principally uncapped food, unsatisfactory quilts, and a very narrow entrance hampering ventilation, and the accumulation on the floorboard of the hive of dead bees in a state of decomposition. There is also a certain amount of animal moisture given off by the living bees. Probably the best treatment is to permit such moisture to condense—not over the bees, but on the sides of the hive, falling on a top floorboard of perforated zinc, and passing through it to a second wooden floorboard which could be cleansed at will. This suggestion is applied in the construction of the *Insulator Hive*. To encourage the condensation of moisture on the side walls they should be either painted or varnished. This further aids in the disinfection of the interior of the hive whenever wanted. Obviously, it is essential in the first instance to remove the source of dampness if possible. The detachable floorboard plays a useful part in the removal of dead bees and *débris* from the hive in winter. Such decomposing matter serves as an undesirable source of dampness. One is blamed for advising its removal in a convenient manner by the detachable double floorboard arrangement above mentioned; yet at the same time the evil factor of such an accumulated dirt has been admitted, although with some indifference, on many past occasions by modern apiarists. In the words of Mr. H. J. Sparkes: "... If these methods—the let-alone and the cleansing—are compared, it ought not to be difficult to see that one of them conduces to disease. On the floorboard of the hive, in which the bees passed the winter, a basin full of material is often found, composed of comb cappings, excrement, and dead bees. This would in time decompose, and would be well fitted to injure the health of the inhabitants of the dwelling."* Yet Mr. Sparkes was pleading for just an annual cleansing of the hive, and arguing with people who do not believe in "interfering" in any way with the brood chamber!

* *Co-operative Food Culture*, April, 1918.

Overworked Queen and Loss of Stamina.

I think it is generally understood that exhaustion of the bees—whether queen or workers—lowers their stamina. Commercially, it does not pay to patronise queens which are not prolific and which do not respond to stimulation. At the same time it does not pay to overwork a queen and yet retain her after exhaustion. The progeny of a debilitated queen are bound to be constitutionally weak in a sense. It does not follow, however, that a highly prolific queen in a modern hive is usually employed beyond the natural capacity of her particular strain. It is often difficult to over-work than to under-work a queen which is not of special merit. And no doubt the latter is responsible when patronised for the introduction of poor strains. A naturally prolific queen will never be content—except as a late young queen—with the accommodation of the English skep; yet the skep has no secret of immunity other than factors already recognised in connection with the modern hive. Again, the pure Italian bee, in spite of her great fecundity, shows considerable resistance—although not full immunity—to "Isle of Wight" disease. In the words of such a distinguished breeder of Italian bees as Mr. H. Watts, "Italian bees show a wonderful resistance, and are good honey gatherers. One pure Italian stock standing in the middle of a row of infected colonies kept perfectly healthy, and from that and the nuclei I made from it, I re-started my apiary, and no pure Italians have had 'Isle of Wight' disease. Italian queens are very prolific; they require more room in the brood chamber than bee-keepers have been used to giving to black bees. They will most likely swarm if queen is confined to ten frames."*

Twenty years ago, Italian bees were not appreciably distributed in this country as at present. This, in itself, is a factor for consideration. Encouragement should be extended to the analytical examination of possible factors. It is hardly fitting on the part of the mono-theorists to ridicule those who are not satisfied with a single superficial examination.

We may safely ignore the effect of overworking the queen on the progeny during the early summer, when much depends for success on a powerful colony. Such "overwork" is in reality neither untimely nor absolute, the term being generally used loosely. One would be offering better advice by insisting on using none other than very prolific queens which are specially capable of meeting the requirements of the professional apiarist, who more than anyone else can never afford to keep a "lazy" queen. On the other hand, it is unreasonable to expect over-worked bees or those of weak constitution to winter well. Hence the value of *early* re-queening in the fall.†

* *Bee Craft*, May, 1919.

The Aluminum Comb.

An examination of a specimen of this artificial comb at the museum of the B.B.K.A. will be most instructive to many apiarists. As it has been received not long ago, and belongs, so far as I am aware, to the first consignment of its kind which has ever reached this country, there are no experiments yet on record on this side of the Atlantic relative to its possibilities. In America on the other hand, very encouraging experiments are already published; in fact, it appears to have passed its experimental stage. The great defect of this invention is the *weakness* of the comb, which will not resist the roughening effect of the uncapping knife. But this weakness is simply relative; and if we exclude its utilisation in the super, we shall find that we have an excellent investment by its utilisation for the brood chamber. A truly clean and economical article which may withstand with care years of service. Moderate pressure with the palm of the hand will be readily resisted by these wax-jointed aluminium foldings, which are so well constructed in imitation of the wax comb. Additional improvements are undoubtedly needed; but the comb in its present state is no doubt quite serviceable, if we may depend on American literature. Not all criticisms advanced are weighty. The openings in the bases of the cells‡ are strongly objected to, for instance; but when we remember the direction of the cells and the ready use of both sides of the comb, whether for brood or otherwise, no ground for substantial criticism will be found.§

Queen Mating within the Hive.

I assure F. L. W. that I have read the passage to which he refers and similar writings in other noted works, as much as he would have liked, and I am not disputing such logical theories. At the same time, experiments, which hardly involve any appreciable expense or time cannot be objected to; their educational value alone is a sufficient inducement, however hopeless their prospects may be. Had an authentic case of queen mating within the hive been recorded, plausible explanations would have been readily advanced to meet the circumstances. We would probably

† *The Bee-keepers' Record*, May, 1919, p. 55.
‡ *Gleanings in Bee Culture*, May, 1919, p. 302.
§ Further annotations have been contributed to the June issue of *Bee Craft*.

have learnt then that the element of excitement under certain conditions, and voluntarily, would aid in establishing a high internal pressure, through rapid breathing (which is always noticeable also before the flight of a worker bee and when sucking fluids) leading to a high blood pressure. To suggest that a queen must have mated within the hive because of unfavourable weather, and at the same time not keeping her in confinement, is too fallacious a suggestion to require any comment. I have no share in this view. The question is:—What is the deep natural reason for flight—mating? Is it a safeguard against "in-breeding"? Could artificial favourable conditions for hive-mating be instituted? We need not be over-discouraged by the past, and, equally advisable, we need not exaggerate the possibilities of new tests in advance, whether for success of failure. In research, open-mindedness is a capital principle.

Bees in India and Kashmir.

Having been an enthusiastic bee-keeper for some years prior to the war, I was naturally most interested in the "operations" of the Indian bee when I arrived in India with my battalion.

There are two noticeable types of bees in India. The large variety, which to the ordinary eye is identical with our English Black bee, and a smaller variety about half the size of the Black bee. This smaller bee is the more common in the plains of India. Its colour is inclined to be greyish, and it is equally as busy as our own bee, but being only half the size it naturally produces smaller quantities of honey.

HOMES OF THE BEE IN INDIA.

A swarm of these small bees when out "house hunting," usually selects a home in a scrubby thick bush, the foliage and

upper growth of which protects it from the sun and rain. As an alternative site, the swarm will often settle about two feet from the ground in a clump of prickly pear, the large flat stems of this cactus provides it with ample shelter. Photograph No. 1 shows a small comb of honey produced by these small bees, though should there be a well-established stock they will store as much as 12 lbs. of honey.

A swarm of the large bees will settle down, as a rule, under the outstretched branch of an old tree, high up from the ground, and will carry on operations in a similar way to the English bee. This bee will build long straight combs, and will store from 30 to 40 lbs. of honey. As its combs are built a long way from the ground, and usually in most inaccessible places, one is unable to inspect its home.

The heat of the sun in the plains of India make it impossible to keep bees, for were foundation, or comb, placed in the most elaborately constructed hive it would sag, and again the bees could not possibly tolerate the immense heat of the interior of the hive. When one lives in the plains it is a red letter day, should one espy a native carrying a comb of honey attached to a branch, for he will usually "part" with his "find," at the rate of one rupee per pound, in which he will endeavour to include the weight of the branch.

In the hills bee-keeping is occasionally indulged in. A short explanation of the word "hills" would perhaps not be out of place.

Before mountains can attain to the lofty height of being called hills they must be in the vicinity of 10,000 ft. above sea level. At such a height it is fairly cool, even in the hottest part of the season, so that a pukka hive becomes a possibility. As most of the Indian hill stations are up among pine trees, there is, beyond an odd fruit tree, and the natural flora, which is as a rule rather scanty, little "fodder" for the bees, consequently bee-keeping cannot profitably be carried on. Kashmir is an exception.

As is well known, Kashmir is a large native State, on the northern frontier of India, the inhabited parts of which are at an average altitude of 6,000 ft. above the sea level. The valley of Kashmir opens out into large fertile tracts on either side of the Jhelum River.

The natural flora of Kashmir, together with the innumerable fruit trees, afford ample scope for the work of the bee. Many of the permanent inhabitants (European) of Srinagar, the capital of Kashmir, practise bee-keeping mainly as an interesting hobby, and apparently not for profit, but otherwise on precisely the same lines as is done in England.

Kashmir honey, as retailed in the State, is procured from the Kashmiri native, who relies mainly upon "The Will of Allah" and the kindheartedness of the bees, for his honey crop.

The common honey bee in Kashmir is of the same type as that found lower down in the plains of India. It is a good worker, and the abundance of flowers, together with the ideal climate, tend towards heavy crops.

Bees abound in Kashmir, otherwise the native farmer could not produce his large yields of honey. His system of bee-keeping is simple. Every year he will plaster on to holes in the walls of his house cracked or useless "chattis," (crocks), or, if he is a bee-keeper *par excellence*, he will construct sun-dried mud barrels, and plaster these into the wall in a similar way to the crocks, leaving a small hole in the centre of the barrel as an entrance for the bees. He then sits down and awaits any kindly swarms which may come along. Singularly enough the awaited swarms invariably arrive and take up as homes his prepared "hives." Photograph No. 2 shows a barrel-shaped hive, made from mud, and cow dung, well mixed together, shaped, and then dried in the sun. Photograph No. 3 shows a Kashmiri's house, with several hives let into the walls.

Photograph No. 4 shows the bees entering the hive.

In the autumn the bees, having done their best for the farmer from the fruit blossoms, and other flowers, assisted by the wonderful climate, are smoked out.

The Kashmiri is most thorough in his system of smoking out, and does not cease to put up his smoke barrage until the bees are far more dead than alive.

The result of this copious smoking out, as might be expected, is most disastrous to the flavour and aroma of the honey, which smells like a bonfire, and is as thoroughly smoked as a kipper.

For his own use the Kashmiri, not being an energetic fellow, keeps a mixture of dead bees, comb and grubs which he stores away in some earthenware jar.

There are large possibilities for an enterprising bee-keeper in Kashmir.

The climate and life there are ideal, and with such a large field of flowers, there is no reason why some of the large yields per hive of Australia should not be beaten, and by an infinitely better variety of honey.

R. H. DUTCHMAN (Capt.).

Wax Making and "Isle of Wight" Disease.

The article by Mr. E. E. Lowe in the B.B.J. or April 3rd is most interesting to me, both for his point of view on "Isle of Wight" disease and for the fact that there is one English bee-keeper with sufficient energy to do something. The thought, however, occurs to me that he may not have spent all his life in this country, and has seen what other countries do where they "get a move on." Had the B.B.K.A. Council taken up my suggestion to them in the autumn of 1911 we might all of us have now been in a better position in regard to "Isle of Wight" disease. My own experience latterly is that the majority of those bee-keepers I have come across, whilst condemning the Council, take no steps to place their views before that body. This does not tend to the progress of beecraft, and their lack of energy was to me never more strongly emphasised than at the last annual B.B.K.A. meeting.

Much as I dislike Government intervention, the only hope for beecraft now seems to me to be a vigorous policy on the part of some Government body in both field and research work, the former being under a skilled apiarist and the latter under the competent direction of preferably one who has also a knowledge of bee-keeping. The schemes at present undertaken by the Board of Agriculture do not go far enough, and in my opinion could be very much improved.

Personally, I should much prefer enterprise entirely under the control of a body of bee-keepers to Government intervention, and had bee-keepers only followed out my suggestion made years ago, of subscribing £1 per head each to a central research fund, instead of each losing many pounds' worth of stocks of bees, progress might have been made.

Actually, I suggest the welfare of bee-keeping is of greater advantage to the community at large than the amount of honey produced by the bee-keeper. Apart from the production of fruit and clover seed, on which much, but not sufficient, has been written, there is to be considered the benefit derived from the fertilisation of bean, mustard, turnip and buckwheat, all of importance to the farmer, but of still greater importance to him the fertilisation of the natural white Dutch clover, alsike, and sainfoin clovers utilised in hay (and grasses) produced for feeding purposes.

My microscopical work on "Isle of Wight" disease in 1911 and 1912 incidentally brought to notice one point in connection with foul brood, which I placed before the Gloucestershire B.K.A., but they appear to me to have failed to realise its value, nor have they published it in their reports; and I have now written it up for a paper in which I hope it will raise discussion and lead to further investigation.

From the tone of his article I take it that Mr. Lowe would welcome helpful criticism.

1. Undoubtedly wax is found, as he states, but are not the edges of these pieces of wax jagged, and have they not every appearance of having been bitten off from the cell?

2. On what basis is it assumed that when foundation is given to bees they cease to produce wax in the quantities they *normally* would? To amplify question two, I would state that I consider a swarm of bees, thrown into a box or skep, to be temporarily in an abnormal condition, because part of the bees who might otherwise be gathering honey are now retained producing wax scales *in excess* for the purpose of building comb, which I do not consider normal. This excessive wax production only affects a percentage of the bees in a colony at one certain period of its existence. Further, if the annual life of the colony is taken into consideration, the actual percentage of bees utilised for excessive wax production is a very small percentage of the total number of bees brought to life in the colony in one year. Continuing this hypothesis, once having produced their comb, colonies have been known to live in a healthy and wild state for years in the same place—*e.g.*, trees, walls, and roofs of buildings, wax only being required for capping purposes and the renewal of perished comb, the space at their disposal being so large that they seldom swarm.

Again, because bees are given foundation, do they cease to produce a normal amount of wax? I am of the opinion they do not cease to do so. I know the weight of wax produced on the average by each colony, and utilised for the purpose of capping and extending the cells, but I don't know the amount lost by their tearing down comb not to their liking, the amount lost on the bottom of the hive and when they are outside the hive. Part of the amount exuded between the ventral plates and allowed to fall on the floor of the hive can be arrived at in the following manner:—

Procure a sheet of perforated zinc with fairly large apertures, through which, however, the bees cannot pass. Secure it on top of a rim of wood the size of your brood chamber, and place this rim, zinc side uppermost, with the brood chamber on top, giving the bees entrance between zinc and brood chamber, and not under it. From time to time sweep up the wax scales that have fallen through the zinc,

doing this fairly frequently, as it is a harbour for wax grub, and let us all hear the result.

I believe that both in the normal life of the bee, its diseases, and its brood diseases there is scope for a large amount of research work yet to be done.

My microscopical work of 1911 and 1912 led me to form certain conclusions which were not in agreement entirely with the brochure sent out by the Board of Agriculture in, I think, 1912, and these I tested in the summer of 1912. My profession, however, kept me so busy that it was not until my discharge from the Army that I did any more field work, and now I hope to reap the benefit, more of which anon.—G. THOMAS, Glos. Trout Farm, Andoversford.

To the Australian Apiculture Students.

As many Australians are taking courses in apiculture in this country, I consider it would be within bounds to offer a little advice on the subject as regards starting-out conditions in Australia, climate and locality. Many of them are amateurs with no experience and lots of enthusiasm, and there are also men of experience undergoing courses. It is not my intention to offer them advice, as no doubt their experience has been the practical, founded on success with a deal of failure. I mention failure because experience based upon it often proves the best essential to tide across the hard places. I have so found it. If I was a beginner I would place myself for a season with some specialist bee-man in the State in which I intended to start out, as the States differ greatly in climatic conditions, spring manipulation, and bee pasturage. Failing this, I would feel my way carefully by just keeping as many bees as I could well manage, and provide myself with up-to-date bee literature and standard works, such as "The A B C and X Y Z of Bee Culture," A. I. Root, and Langstroth on "The Honey Bee," by Dadant and Sons, Hamilton, Ill., U.S.A., and "Australian Bee-keeping," by Rayment, and "Productive Bee-keeping," by Frank Pellet. I would also subscribe to several journals, such as "The Australian Bee-keeper," "The American Bee Journal," "Gleanings," "The British Bee Journal," and others I could obtain. I might mention here that our apiaries in Australia are run under the American system, which differs somewhat from Great Britain, and much of our gear is American. Many men start on a bee-keeping venture with a large number of colonies, expensive gear, and big expectations. They may do well for a while, but when a hard time comes, such as lack of breeding pollen and honey, or the honey flow suddenly cut off altogether, they find things beyond themselves, and end up with a yard full of colonies unfit to winter and often managed to death. It is best for a man, if he has not a fair field of knowledge to work upon, to go slow. Much will be learnt in this country on up-to-date outfits, such as queen-rearing, breeding-up, habits of bees and bee diseases; but do not forget the fact that crops, conditions and climate are different, also the system in Australia. It is for the greater part on the American out-apiary plan, but many miles from the railroads. Ten of us in our locality are 50 rough miles from home. The honey is hauled by bullock teams. The hive used here also differs from ours, which is mostly the 10-frame Langstroth, with Hoffman frames. If you are going to make your own hives and equipment, be sure it is standard and interchangeable, with factory-made material. It will pay in the long run to use the best of timber, and also full sheets of foundation. You can obtain a small saw-bench at the supply houses or get a carpenter to rig one up, and buy saw and spindle and bearings in Sydney, Melbourne, or your nearest large supply stores. Petrol cases, $\frac{5}{8}$ in., make a good hive for the Australian climate, and many are in use. I know apiaries solely run on hives made from this lumber. Bottom boards and frames also can be manufactured from this material, but to use a $\frac{7}{8}$-in. galvanised cover is advisable. To obtain bees, I would buy them in gin or kerosene cases from farmers, who generally have a few to sell, and they are much cheaper than buying from supply and bee dealers. You can let them swarm if you have lots of time at your disposal, but many are liable to go into the bush.

(To be continued.)

Twickenham and Thames Valley Bee-Keepers' Association.

This Association was formed as a result of many meetings held in the district by local bee enthusiasts.

At a general meeting at Hounslow, on May 3, at which the Rev. R. Dixon Box presided, it was announced that about 30 ladies and gentlemen had intimated their intention of joining (this number has since increased).

The following members were appointed a committee for the year:—Miss M. Byatt, Hawthorn, Hanworth, Middlesex, hon. sec.; Rev. R. Dixon Box, hon, treasurer; Miss Shaw, Messrs. C. D. Burnet,

C. Parks, F. German, G. B. Willett, J. Curtis, T. M. Nelson.

It was arranged that lectures, meetings, etc., should be arranged from time to time in different parts of the district. The first lecture to be given on Wednesday, May 21, at Twickenham.

The committee are anxious to find a suitable piece of ground, in a central locality, on which to start an Association apiary.—*Communicated.*

Corsham and District Bee-Keepers' Association.

A meeting of bee-keepers was held on Wednesday, May 7, at the residence of Mr. W. Golding, Fern Villa, Priory Street, Corsham, when an Association was formed for Corsham and District. Nine members were enrolled. Admiral Sir C. Briggs was elected president, and Mr. Golding secretary *pro tem.* Mr. F. C. Clarke, of Westbury, was present, and gave valuable assistance.—V. S. Aske, Yatton Keynell.

Sheffield and District Bee-Keepers' Association.

A meeting of the above Association was held on Thursday, May 8, at the Tontine Café, Sheffield. Mr. C. H. Chandler, president of the Allotments Federation, presided, and Mr. George Hayes, Nottingham, gave a very interesting lantern lecture on "The Pollination of Flowers." The lecture was a fascinating revelation of the way in which flowers adapt themselves to secure the assistance of bees and other insects in bringing about fertilisation. Great interest was shown in the lecture, at the conclusion of which a hearty vote of thanks was adopted, on the motion of Councillor Bashforth, seconded by Mr. C. M. Hansell.—W. Garwell, hon. secretary.

Combs from Other Hives.

BEESWAX AS A SEAL FOR BOTTLING FRUIT.

Beeswax is not suitable as a seal for bottled fruit because it shrinks in cooling, leaving a space through which air with the germs of decay can penetrate. The best preservative for household use is the tasteless paraffin oil now largely used for medical purposes. About half an inch of the oil is poured upon the fruit while still hot, and, as an additional security, the bottles may be sterilised in an oven after paper has been tied over their mouths. I have never had a single failure with fruit bottled in this way. The oil may be removed by means of a salt-spoon when the fruit is required for use, and may be utilised again for the same purpose. The last traces may be absorbed by a roll of paper. —Walter F. Reid (F.I.C., F.C.S., Vice-Chairman British Bee-keepers' Association).—From the *Field.*

Causes of Loss among Bees.

[9914] I have followed with interest all the letters and articles appearing for some time in The British Bee Journal on the rather vexed question of disease, and like some previous contributors am of opinion that many of our troubles that are assigned to "Isle of Wight" disease should really come under various headings. Many of us are too ready, when faced with some inexplicable misfortune, to class them all under this heading.

I may say I have been a bee-keeper for about fourteen years, and have always more or less attempted to keep bees on "up-to-date" lines. Possibly some readers might disagree with me on this remark, when I state it is only in the last couple of years I have gone in for "Queen Rearing." I was simply forced to do so owing to losses through disease.

To look at the whole general subject from a plain commonsense point of view, I consider the main sources of our misfortunes are fairly obvious. I think it is simply and merely by, on some points at any rate, going altogether against nature. For example, what occurs with a stock in a wild state? When a swarm issues those bees instinctively leave the immediate neighbourhood of the parent stock, possibly travelling a few miles. What do we do in our apiaries? Even if a swarm does start to travel a few miles, we follow it, bringing it back again, placing it possibly within a few feet of the parent hive. It appears to me there is far too much "In-Breeding" in particular apiaries: this should not be.

Another cause possibly is that under present working conditions we do not give the workers enough scope for manufacturing wax. Also a queen should not under any consideration be kept beyond the second year, because in bar frame hives as now managed, the queen works far harder than under natural conditions. Also there is the question of combs, owing to the cells continuously growing smaller with every bee hatched out, and also the combs getting old and dirty, it would be advisable to renew these every two or

three years. This could easily be managed by placing three or four new frames of foundation in every stock each year, gradually moving the older combs to the back.

For those bee-keeers who do not themselves rear queens, I would suggest that queens should be purchased from some far distant locality, and the entire apiary requeened, say, every three years, or of course, careful notes could be kept, and a portion of the queens replaced every year.

Then there is the question of wax secretion. Would it be possible for some "brainy" person to invent "foundation" in the true sense of the word! I mean some thin substance same as usual, this to be merely dipped in wax on which the bees could build, that is, of course, for the brood nest. I think it would be worth trying, at any rate, to see if the bees would work it.

Then, as regards sections, of course, we would possibly get a few short and not quite so perfect, but by giving, say, $\frac{1}{3}$, or $\frac{1}{2}$ sheet in each section, it would give the workers more scope for their natural duties. Also it would possibly be well worth experimenting with deeper and narrower frames, as used by many of our "cousins" across the "Herring Pond," thereby, especially for wintering, giving the bees a better chance of clustering with a better air space overhead. Also, of course, at all times keeping hives and everything in connection with the apiary scrupulously clean.

To sum up, by re-queening from a distance with really good strains, keeping no old combs, giving the workers a greater chance for the use of their natural organs, not retaining any queen beyond her second year, and keeping our hives and all appliances in a thoroughly clean and sanitary state, not forgetting a warm but airy aspect for our apiary, possibly the disease question would not be so prominent in this journal as heretofore.—K. B. Williams, jnr., Hon. Sec., Mallow Bee-keepers' Association.

Care of Bees and "Isle of Wight" Disease.

[9915] On taking up The British Bee Journal I always read Mr. Kettle's "yarns" first, and in the Journal of Feb 20 he touches the right key to one of the main points *re* the "I.O.W." disease. This subject I have been pondering in my mind for some time, as I can prove cases where the bees in bar hives have had no covering on at all, only a calico quilt, and not half the frames covered, and have survived the winter. I manage a lady's bees 18 miles away from my place, and I was there in August, 1917, taking off the honey. I left the whole of the hives, five in number, as above stated, as there was such a mass of bees I could do nothing with them. I told the lady in question how I had left them, and I told her to cover them up as soon as the weather came a little cooler, which she promised me she would do. In the middle of June last year I received a postcard one Saturday morning asking could I go at once, as she had a large swarm of bees which she wanted hiving, so I set sail on Sunday morning in good time, arriving there about 9 a.m. The good lady had not yet got up. The maid answered the door, informed the lady that I had arrived, and brought me the message that I should find the bees in the garden and a skep near by. I soon found them and had the bees in the hive in about half an hour. The lady had given them away to a gentleman at Lincoln. After I had got them made secure with a piece of cheese cloth, she had a chat about the bees, and I was informed that the whole lot were just as I had left them when I took away the honey in August, 1917, so I made an inspection, or rather tried, and I could only get one roof off out of the five stocks, they had all built the combs into the roofs of the hives. This lot of bees is the only healthy apiary of bar frame hives in this district. How they existed through the winter in this condition I am (like Mr. Kettle) a little puzzled to know. I have come to this conclusion, that we bee-keepers take too much care of our bees by wrapping them up in flannel, and keeping them through the winter as if they were invalids. To my mind this method is a step in the wrong direction, and is one of the causes of the troubles that we have all suffered so much from of late. I can quote several instances similar to the one in question, and I have come to this conclusion, that if the bees are strong in numbers, and have plenty of food, and good, dry roofs, I say that they will find their own bedclothes.

Re the two sugar boxes containing bees which I mentioned in my letter of November 7, the bees in bar frame hives are dead both on the right hand and on the left, and to-day, February 22, they are flying from the sugar boxes in thousands, with nothing more than a hive roof on the top to keep them dry. The wood the boxes are made of is only $\frac{3}{8}$ in. thick. Now this is one of the chief points I am trying against the disease, and I should like to hear if any other brother bee-keeper has experienced any such event as I have spoken of. I know that drugs will not cure the disease, and I am determined to find the cause if possible.—E. J. Thompson, Apiary House, Gowdall, Snaith.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 11 and 12, at Truro.—Royal Cornwall Show. Five Open Classes for Honey of any year. Schedules from Miss Alac Buck, Bosvigo, Truro. **Entries close June 4.**

June 24 to June 28, at Cardiff.—Royal Agricultural Society's Show, Bee and Honey Section, under the direction of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from The Secretary, 23, Bedford Street, Strand, W.C.2. **Entries close Monday, May 26.**

July 23, Wyke and Normandy Horticultural Society Flower Show.—Open Classes for Section and Run Honey. Section honey prizes, 5s., 3s., 2s.; run honey (1919), 3 1-lb. glass jars, prizes, 5s., 3s., 2s. Entrance fee, 6d.—Hon. Sec., H. S. Mumford, Heatherside, Normandy, near Guildford.

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FIFTY Section Racks, each to take 24 sections, price 2s. each to clear. Would fit with sections if necessary.—Box 19, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. q.76

WANTED, several good Stocks and Swarms healthy bees. Good price given for good bees.—State price, and full particulars, GOLDEN, Leire, Lutterworth, Leicestershire. q.77

STRONG natural Swarms, June delivery, from healthy stocks, 35s., carriage paid. Boxes returnable.—L. W. MATTHEWS, 25, Cray Road, Crocken Hill, Swanley, Kent. q.78

TWO strong Stocks Black Bees in single walled hives, one hive of little value, both working in supers, free to Radlett Station, M.R., £9 10s. Deposit.—Box 20, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. q.79

SIX double chamber W.B.C. Hives, new, for Sale, 37s. 6d. each; reduction for the lot. Hybrid Virgin Queens, 5s. each.—PEIRCE, Rosemount, Tudor Hill, Sutton Coldfield. q.80

OVERSTOCKED.—Five good 7-frame Stocks, Italians, £4 10s. each; one 10-frame Stock, Goldens, £5 15s.; one spare Italian Queen, 14s. 6d.; all 1918 Queens. Cash terms, boxes returnable, stamp for reply, if sold.—NICHOLSON, Ivy Bank, Sprowston, Norwich. q.82

FOR SALE, six Stocks of Bees, two Extractors, Ripener, Honey Pail, 12 empty Hives, Shallow Frames, Sections, etc., £55 the lot. Will not divide.—CARTER, Pennard, Freta Road, Bexley Heath, Kent. q.83

FOR SALE, 3 doz. bottles Clover Honey. What offers?—Box 22, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. q.84

FOR SALE, healthy Stock of Dutch Bees on eight frames, £4 10s.—15, Kelvin Avenue, Bowes Park, London, N. q.85

FOR SALE, owing to death of owner, six modern Hives and Accessories. To be seen by appointment only.—HUGGINS, 152, Stapleton Hall Road, Stroud Green, N.4. q.86

WANTED, fertile Queen Bee.—"Advertiser," 8, Foxhouse Road, Blackburn. q.87

FOR SALE, four Racks, Sections, full sheets foundation, and three Racks with drawn-out combs; lot 23s., carriage paid.—WICKSTEAD, 113, Shrewsbury Road, Market Drayton. q.88

FOR SALE, two four-frame Nuclei, 1918 hybrid queens; delivery in about a fortnight.—Box 23, B.B.J. Office, 23, Bedford Street, W.C.2. q.89

FOR SALE, W.B.C. and other Hives, Supers and other Appliances. Full list on receipt of stamped envelope.—RICHARDS, 82, Grosvenor Avenue, Carshalton. q.44

THREE Queen Excluders, 5s.; four double-walled Hives, 21s. each; Cottage and one acre, fruit trees, fowl houses, etc., £310.—CRACKNELL, Bell's Lane, Hoo, Kent. q.46

QUEENS, 1918 (Italian preferred), wanted at once.—SMITH, 11, Woodbeck, Retford. q.68.

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows

EXPERT, long experience, open to engagement in small apiary; thoroughly practical in all branches; take charge, help, or teach; well up poultry; board, lodgings, reasonable pay; South preferred.—Box 21, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. q.81

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

DUTCH and Dutch-Italian 4-frame Nuclei, June delivery, £3 3s. Cash with orders; carriage paid.—SEALE, Hardumont, Oatlands Drive, Weybridge, Surrey. q.90

ITALIAN NUCLEI, three frame, with young fertile Queens, 50s.; four frames, £3; Fertile Queens, 9s. 6d. each; Virgins, 4s. 6d. All from Simmins' and Penna's strains.—W. J. WATTS, Conway Cottage, Newtown, Upper Parkstone, Dorset. q.92

FEW good Nuclei for Sale, swarm reared, 1919 hybrid queens, two frames, 30s.; three frames, 42s.; four frames, 52s. May and June delivery. Orders strict rotation.—W. P. LILWALL, Croptthorne, Kingsley Avenue, Kettering. q.93

WOOD for Hive Making.—1 in. planed boards, 22 in. by 15 in., 10d.; 22 in. by 13 in., 9d.; 22 in. by 8 in., 6d.; also ⅞ in., unplaned, 27 in. by 4 in., 3d. each. Quantities less for cash.—SMITH, 72, Norton Street, Hockley, Birmingham. q.94

IMPORTED Italian Queens, arriving daily, 12s. 6d., post free.—BROMLEY, 4, St. George's Road, Hampstead, N.W.6. q.96

DUTCH BEES.—Several consignments of Bees in original skeps imported direct from Holland.—For prices, etc., apply THE BEE FARM, Cumbernauld Station, Dumbartonshire. q.95

STRICTLY BUSINESS. — Six packages of Flavine, 6d.; a Japanned Sprayer, 5s.; post free.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.99

1919 IMPORTED Golden Italian Fertile Queens.—Orders booked and executed in rotation. Regular supplies throughout the season Price 14s. 6d.; specially selected, 17s. 6d. Cash terms. Stamp for reply.—GOODARE, New Cross, Wednesfield. q.19

CAN spare few strong Italian Hybrid 3-frame Nuclei, delivery now to mid-June, price £2 2s. —J. NELSON, Kemnal Warren, Chislehurst. q.98

BEES, BEES, BEES.—Healthy Stocks, £5 each; crates (returnable), 10s. 6d.—WHITE, Manor Road, Wallington, Surrey. q.97

BEES!—Expert advice offered for 2s. 6d. Apiaries inspected and put in proper order; charges moderate. Also a few empty Hives for sale.—Apply, DAVID HUNTER, Craighead, Abington, Lanarkshire. p.54

NUCLEI containing one bar of brood and bees, one bar stores, and one bar foundation, with ITALIAN QUEEN, 35s., plus 10s. for travelling box.

NUCLEI, containing two bars brood and bees, one bar of stores, with ITALIAN QUEEN, 45s., plus 10s. for travelling box.

We pay carriage and refund 10s. for each box if returned within seven days.

D. ALLBON,
SUNNYSIDE, HITCHIN. q.91

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford Road, Luton, Beds.

The Royal Show.

May we again remind our readers that entries for the above close on Saturday next.

A printer's error occurs in the schedule. In class 13, the last three words should read "approximate 6 lbs.," not "12 lbs.," as printed.

THE HIGHLAND AND AGRICULTURAL SOCIETIES' SHOW.

We would also draw attention to this show. The prize list is a very good one, and the promoters of the honey section are very anxious that it should be a success. Entry forms may be obtained from Mr. G. Stirton, 3, George IV. Bridge, Edinburgh.

Obituary Notice.

FRANK BENTON.

We regret to announce the death of Frank Benton, the well-known bee-keeper, who was born July 5, 1852, in Coldwater, Michigan. He died February 28, 1919, at Fort Myers, Florida, where he had gone to improve his failing health. Early in life he took great interest in bees, and as a boy watched bumble-bees as they flew in and out of their nests or visited flowers. He was a graduate of the Agricultural College in Michigan, and for several years taught in rural schools there and in East Tennessee. He gave up teaching and devoted himself entirely to bee-keeping. In 1879 and 1880 he started on his first journey over the world, and visited, in company with the great Canadian bee-master, D. A. Jones, of Beeton, Cyprus and the Holy Land in search of new races of bees. He went as far as Java in search of the great Indian bee *Apis Dorsata*, which he finally found in Ceylon. He only succeeded in bringing a few colonies of the giant bee to Beyrouth, where they died whilst he was confined to his bed with jungle fever, brought home from the tropics.

With great care he studied the problem of sending bees by mail, and it was only after years of perseverance that he finally settled on the world-renowned "Benton mailing cage."

Whilst busy exporting Cyprians from Cyprus, Syrians from Syria, and Holy Lands from Jerusalem, he neglected his health in the interest of bee-keeping. In 1882 he went to Athens, but found the Grecian bee of little importance. He next went to Munich, where his correspondent, Ph. J. Baldensperger, sent the Oriental races for a test in the long journey to the United States. He also cultivated Carniolans at Laybach, Austria and went over to Tunis in search of the Punies, which he gave up as undesirable. After twelve years of labour with those different races in their native countries, he returned to America with the conviction that the Cyprians were best. He was appointed Assistant in Apiculture, Department of Agriculture, in Washington, D.C., where he wrote "The Honey Bee," a manual of instruction in bee-culture (1899), which was translated into several foreign languages.

His second journey around the world (1905) was taken through the Caucasus, Persia, and the Himalayas, where he again studied *Apis dorsata*. He also visited the Philippine Islands, where he in vain hoped to find a race fit to introduce into the States. On his return he retired from public life in Washington, but still devoted himself to bees of foreign races.

He spoke fluently French and German, could speak Italian and some Asiatic dialects sufficiently to converse with the people. For many years he was a prolific writer in bee journals of many countries, till Asiatic fevers undermined his constitution, and for several years before his death he stopped writing, and his keen sense of observation was lost to the bee-keeping fraternity.

British Bee-Keepers' Association.

DONATIONS FOR THE ROYAL SHOW.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

	£	s.	d.
Amount already acknowledged	23	6	11
Mr. C. R. White ...	1	1	0
Mr. H. Samways ...	0	5	0
	£24	12	11

LECTURES AT GOLDERS HILL PARK.

A special course of six lectures on bee-keeping will be given in the British Bee-keepers' Association's apiary, London

County Council Park, Golders Hill, London, N.W., on Fridays, June 6, 13, 20, 27, July 4 and 11, at 6.30 o'clock each evening.

Those desiring to attend these lectures must make application at once for enrolment and particulars to

W. Herrod-Hempsall,
Secretary,
23, Bedford Street,
Strand, London, W.C.2.

A simple "chat" on bees will be given free, at 3.30 each afternoon before the lectures

A Dorset Yarn.

Sunday, May 18, brought out the raspberry flowers. Bees had a great variety of flowers before, but now, with the thousands of raspberry blossoms for them, it is no wonder that surplus honey is stored away quickly. The flavour of this early-collected surplus is most pleasant to the taste. Last week we sent the first lot off to market—with the cabbage and lettuce. Many go in raptures over heather honey, but that which is gathered in one week from the early-summer flowers surpasses it in quality, we think, who take off some sections each week and taste them (there are always some that are not quite up to first quality, and these we use ourselves).

Just now, for a week, there is the bloom on the holly trees; flowers are small, but they are so closely packed together on the branches that bees are apparently two and three thick on the flowers. The amount of surplus that they gather when these are in bloom is tremendous. Huge trees of hawthorn and holly, which have grown up in the hedgerows that have not been cut for a generation, all with so much blossom, is fine for the bees; but where both are together the hawthorns have but few bees on them, but the holly has many thousands, all working their hardest to collect the nectar while it is ready. The air is full of the hum of bees as they fly off to those great stores of flowers; it is very marked. We who work in the fields from daylight to dark can note the hours of bee music; as each hour passes when the sun is up the bees gradually increase in numbers till it is one continuous "fortissimo," and as day closes the music of our bees ceases, and only the bumble-bee and sharp-tuned and biting gnats are to be heard. On the large trees of may-blossoms just now are to be seen many units of the bee family, each gathering honey and pollen. Some are very pretty and graceful, others are nearly round, but all seem to be working their hardest while flowers are plentiful.

The flowers of Limnanthes are a bit more attractive to the bees this week; it is because they are more fully out, and I assume that sight has more to do with them going there, as they are in a long line in the centre of a large breadth of cabbage—so much flower that scarce a leaf can be seen on the plants. Large trees of lilac are in flower, but no bees go to them, though the perfume is very strong; they only go where nectar is abundant. My son tells me they are on the scarlet trifolium as he cuts it for the stock; all this is close to the bees, so they are having a real good time just now.

The sections that were sent away last week from "hybrids" were not of the whiteness that we get from blacks; I have now taken some off from a stock of blacks that is very white. The pure Italians have finished one on each of the stocks, but even from the top, when one can see them through the crowds of bees, the cappings are not so white as those from the blacks. These swarmed out last week, and were shook into a skep; but they all went back to the stock again in a very few minutes. I assume it was a young queen out for mating; am glad they did not leave the stock, as they do so much more when in such great numbers. One lot of blacks swarmed and were put into a skep to wait till evening, to give them a bar-frame home; but while I was addressing the children of the school opposite the farm on the greatness of Empire, love of country, home, the flag of a free people, these same black bees thought they would be free to go where they pleased. They all streamed out, and took possession of a chapel roof where bees had been before and died. A great many had been there for some days, so this home had already been marked out by this lot for habitation. In the "odour of sanctity" they ought to do well, but I was sorry to lose them. There was a very large skep nearly full from a bar-frame hive, from which all queen-cells were taken out but one. I wish now I had removed the lot; they would not have swarmed for another month then, and by that time they would have filled two more section racks. It is no use to moan over them now they are gone. The one that swarmed out in the high road, of which I wrote in last week's issue, and carried in at once, with only a part of the swarm, has taken on the new home and are particularly busy. The greater part of the others went back to the parent hive, as I notice the drones that went off with the "Empire" swarm all streamed back to the old home. They knew where they were well off, with ample stores of food for their lazy carcases; they did not like the new home under the chapel roof, with the empty combs.

I notice a lot of beautifully marked Italian drones among the blacks, and

assume that the males have not the high sense of perception that the workers have, and they fly to wrong hives after they have been out in the sunshine, and that the blacks tolerate them where they would not another worker. These are blacks that I had bought 12 miles away, and they have not shown any marked workers. They would not have had the time to produce a young queen and new brood from her, as the drones had not been out long enough, so the coloured drones must have come from the pure Italian stocks, and had gone to the wrong hives after their first summer outing.

This year the bees seem to be more interesting to visitors than ever, even though there are not so many as other years, so many come and so many write (three letters about bees on Friday morning). Must answer them to-day (Sunday), but they cannot get such long answers as they deserve, as there are still only the 24 hours in the day, even though we have a new daylight-saving time. "East and west and south and north," as Macaulay wrote in the "Lays of Ancient Rome," the writers hail from all parts; even Ireland sends to me from one of the rectories in co. Clare. The subjects are most interesting, and make one's correspondence delightful reading. Mr. Hancock, of Newton Abbot, wrote of one of his daughters who went to settle some bees for an incoming resident, and she went without her veil. She went on with the work alone at first, but I suppose one of the men was ashamed to see a young girl lifting the great stocks alone, and not getting hurt, so he lent a hand to finish them. Why some men should be afraid of bees, men who will master most things, seems beyond me. I have seen a man master a young horse and ride him, even though it did its best to throw him, yet afraid of a poor little bee. Miss Hancock had all the lot out safe, and was only stung in the face with the last. It is the loose hair that bees do not like: it undoubtedly adds considerably to the beauty of the fair sex, but they should not attempt to handle bees without a cap such as swimmers wear.

Many pears have not set a good crop. Early flowering ones are the best. I assume it is due to the very dry time we are having just now. Plums are fine, and the strawberries are swelling fast; all the latter are littered down to keep the fruit clean. Asparagus is very fine and strong; sulphate of ammonia has helped to give size to it. Lettuce and cabbage are 2s. 6d. per dozen; a load is worth a good bit each day. It is no use waiting till each is of huge size; they will not fetch any more, and they will impoverish the soil the longer they stay on it, and will rob the violets we grow in the same lines between them for the autumn and winter harvest. Gooseberries could be gathered at 12s. per dozen lbs., but we find it pays us better to let them be fully grown before harvesting them, even though we do not get so much each dozen lbs. We keep on stirring the soil with cultivators, to keep down weeds and make a healthy soil for the plants to move on well; a hard-baked soil is against all good growth.

I regret I write so badly and in such a hurry that some of the long words are not clear. In last Yarn, on p. 202, Jersey pears should read "perfectly inoculated blossoms," not "involuted," as printed.—J. J. KETTLE.

Care of Bees and "Isle of Wight" Disease.

Precedents—often the fruit of exaggeration or superficial observation—encourage yet another writer to make the surprising remark in THE BRITISH BEE JOURNAL:—". . . we bee-keepers take too much care of our bees by wrapping them up in flannel, and keeping them through the winter as if they were invalids. To my mind this method is a step in the wrong direction, and is one of the causes of the troubles that we have all suffered so much from of late. I can quote several instances similar to the one in question, and I have come to this conclusion, that if the bees are strong in numbers, and have plenty of food, and good dry roofs, I say that they will find their own bedclothes." Not long ago it was also suggested in the JOURNAL that we should intentionally *avoid* supplying our bees in winter with many quilts, as this would not facilitate their acclimatisation! Surely, without this form of neglect, they have enough cruel opportunities for climatic adaptation, should this be possible.

The instance to which the former writer refers is none other than the bees supplying themselves with wax-blankets in place of the forgotten woollen ones; and I am sure not many of us would care to see our bees building combs in the roof, or lining a thin quilt with a heavy layer of propolis and wax.

No doubt instances are known of *strong* colonies surviving the winter in spite of little packing, but there is no doubt also

that this happens at an appreciable sacrifice in life. Dr. Brunnich's researches* on the normal temperature of the bee, earlier confirmed researches on the necessary temperature for healthy clustering, and the established fact that heat generation is proportionate to the food supply, and that bees over-feed at both too low and too high temperatures—these practical considerations, amongst others, lead to the logical practice of heat preservation by the employment of suitable quilts which do not hamper ventilation. Why should we, therefore, induce our bees to over-feed during their confinement period? Why should we be fascinated by instances of survival *in spite* of negligence? Is there any advantage other than saving quilts in providing the bees with too little packing? Is there any real economy in such a practice when we remember the food loss in unreasonable over-feeding? Exceptions merely prove the rule; and no model examples to be followed need arise from such cases. It seems to me a perfect waste of space, ink, and paper to dwell repeatedly on such exceptions, and to end by drawing conclusions which have no bearing on them. Does your correspondent really believe that "one of the causes of the troubles that we have all suffered so much from of late," is that we are not satisfied with cheese-cloth or the like as quilts for our bees? Can he advance a single reason for this curious hypothesis which is lent from one writer to the other?

Foraging and the Nectar Aroma.

Mr. Kettle intelligently suggests that the reason why bees prefer at first gooseberry bloom to pear blossom is apparently because the latter does not carry sufficiently sweet nectar at its early stage. This is a good explanation; nevertheless, I doubt its correctness; and this for the simple reason that, in spite of utilising various strengths of sugar solution and placing them on receptacles even on the hive platforms, these were almost ignored by the bees during the honey flow. The element of sweetness existed in the syrup, but not the aroma. It was rather difficult to artificially perfume it to the liking of the bees. As for the degree of sweetness, bees are known at certain times not to disregard even very dilute syrup; further, nectar as a means of an attraction to insects to perform their fertilising agency, must naturally possess an appreciable degree of sweetness, or else its secretion would be valueless, although it might be somewhat poor in quality at the very commencement: but if it is good enough for multiple insects, it should be equally good for the honey bees, were it not that the latter possibly possess a keener sense of smell, and are more attracted by different nectar which is more richly perfumed. The nectar of the pear blossoms, in spite of visibility to the naked eye, and in spite of comparative abundance, was, comparatively speaking, not much sought after by the bees, even at a later stage of blooming; yet the small and partially-hidden gooseberry flowers were loaded with them. I am under the impression, therefore, that possibly the factor of the nectar aroma is of significant importance—no doubt more than colour—in influencing the fancy of bees when foraging.

Can Bees Hear? Who Knows?

Various writers have discussed this question many a time, and it has been recently commented upon by Dr. C. C. Miller as follows:—"One day, years ago, a swarm was beginning to enter a hive, if I am not mistaken returning to its own hive, but I wanted it to enter another hive placed for it. I moved the old hive to a new place, some of the bees of the swarm still calling loudly at the entrance, but in a little while the swarm found it and began to enter. Quickly I set the hive on a wheelbarrow and started it travelling about. So soon as it was on the move the swarm left it, but if I stopped, it was not long till the swarm found it. I don't remember the outcome, but I know that the swarm found the hive every time I stopped. It could hardly be that the bees found the hive by sight, for we know their hive is lost to them if at any time moved a very few feet, and if they didn't hear the continuous call at the entrance how did they find the hive?"†

Personally, I have no doubt from inference that bees *do* hear. As an ordinary case of almost every day occurrence during the honey season, one may mention the young bee that happens to alight some distance from the entrance and clumsily searches for it. Then, suddenly, her attention is directed to the right way by the calling of the guides. This does not dispute, however, the guidance through scent production‡ in addition. In fact, it is quite noticeable on many occasions that the humming bees at the entrance of the hive are not all activiting their scent-producing organs. It is not difficult also for a trained ear to distinguish between the ordinary ventilating sound and the guiding hum.

Bees are to be found quickly conscious of any gross change in their homes; and, generally speaking, under such conditions,

* *The American Bee Journal*, September, 1918, p. 309.

† *Gleanings in Bee Culture*, January, 1919, p. 23.

‡ *Queen-Rearing in England*, by F. W. L. Sladen, p. 73.

every device is employed for guidance at the hive gate. Sound guidance is often the rule under mild conditions of disturbance, or during excessive foraging, with many young bees in the field, generally with a small proportion of scent guidance.

If bees cannot hear, sound production on their part is clearly meaningless. Far from being so, we do know that it is readily responded to.

On one occasion, I moved a hive some yards away from its former position. The foraging bees, as may be expected, returned to the old site and kept circling in the air for some time. A few of them discovered the new site partly through the humming of some guide bees, and at once a stronger call was raised. In a comparatively short time the wandering bees were quickly attracted to the new site. I doubt that scent production was of much value then, because coincidentally it happened to rain during this procedure; further, the circling bees were some distance from the hive itself. Scent production may be of value for minute guidance at close range, but sound guidance must have greater service when it could be noted several yards away from the anxious guides.

In intimately watching the habits of the honey bee, no observer will fail in everyday practice to note several interesting examples of production and response to sound.

The Selection of Bee Strains.

The popular and fallacious idea of today is to choose bees according to such general terms as Italian, Dutch, Native, etc., no adequate thought being given to the fact that a degenerate Italian strain is no better off than a native strain accused of susceptibility. The praise of the Italian bee is so current that quotations are unnecessary. Regarding the Dutch bee, Mr. R. White, of Cumbernauld, informs me that "he has tried many races and varieties, and does not find the Italian bee as good as, say, the Punic, but he finds *none of them* as disease resisting as the Dutch." He further supports this statement by referring to inoculation experiments conducted at the apiary of the West of Scotland College, Kilmarnock. As for the Native bee, the complimentary correspondence which was started in THE BRITISH BEE JOURNAL in August, 1918, by "Robin Hood" is to be remembered. I am ready to believe all these writers, and my explanation is that they have been fortunate enough in either securing or breeding good strains. When proper attention is given to the *science* of breeding, and pains are taken in controlling the drone element, as well as in more thoughtfully selecting the mothers of future generations, without any prejudice, and under no influence of secondary factors alone, such as colour and the like, we may hope then to have none of otherwise good strains of bees so degenerating and so discredited.

With full open-mindedness, I would not hesitate to place on one footing my various strains selected with difficulty from various sources. I did not mind paying £5 per Dutch colony in skep, although I have also paid no more than two guineas for a native colony on six combs of brood and two of food, and I do not think I have committed any extravagance in paying the former price, because unless strong healthy strains in pure or almost pure condition are secured to begin with, hybridisation will simply be a process of degeneration instead of improvement.

In selecting bees, it is most essential, therefore, to consider, in the first place, well-bred strains, in the hands of noted apiarists and from others of good reputation. Most of these leading men and their disciples are known to the readers of the Bee Press. Whatever their quotations may be, these are justified by the trouble in research taken and the attempts at perfection made, and they deserve continuous encouragement. At least they are more meritorious of it than those who give the improvement of breeding no thought of labour, and being in reality outside the camp of modern bee-keepers, who have the cause of progressive bee culture at heart, these people do not hesitate to deceive many crude amateurs by poor services in return for excessive charges. Amazing stories of such misadventures are still current in bee societies.

A Daring Suicide.

Having found in one case the travelling-introducing cage unworkable (owing to blockage) after a ceremony of three days' caging, I thought of trying the "smoke method." As soon as the queen was released on a comb, she was attacked, and before I could manage to save her, she quickly fought her way out of the hive and darted in the air, circling first close to the hive and then disappearing. Astonishment mingled with forlorn hope was my only reaction: and before I could even touch my sprayer, she was gone with a distinct note, not, of course, as that of the drone, yet rich and loud!

The Blunders of the B.B.K.A.

The greatest blunder of the B.B.K.A. is that it has served British and International bee culture for 45 years, but that some of its members are not satisfied with such a "short" period of service, and

would have liked it recorded as equivalent in efforts to a century of labour!! Possibly it is so: but it is logical to remark that no additional volume of service is possible by any organisation, whether powerful or weak, without the corresponding support of finance, in the absence of which no fruitful research could be undertaken.

Another blunder is the proper disregard by the Council of the Association of misguided destructive criticism, which serves no good purpose; yet unfortunately ignoring at the same time (until quite recently), giving greater publicity for the work of the Association.

It is only fair on my part to mention, in view of recent comments on the scientific apathy of the Council, that in my communications with the Secretary of the B.B.K.A. on the subject of research work in bee culture, my criticisms have always received, as may be expected from one in his position, the utmost of consideration and encouragement.

Jottings.

The resolve to keep nothing but strong stocks generally automatically rights itself, if adhered to, but autumn feeding must be resorted to if stores are short. Whether we choose candy or syrup is another matter. I would remind beekeepers that so soon as we put back swarms we are "interfering with nature." This is the very purpose for which the frame hive is designed, and which, with an intelligent study of "season," as well as bees, will not be found wanting, but the argument that we have only to shoot a swarm into a skep and this will fulfil the demands of nature, if left alone, is all bosh. So soon as a stock has its combs built, the conditions are alike in both skep and frame hive, with all the points, for aid, on the frame hive; and if we don't wish to aid our bees—for our benefit, I suppose I must add, "Why hive them at all?"

Life of Combs (page 18, column 2).—It will be found the recommendation given by the "Guide Book" is three years, and if three frames each year are changed this will ensure a fair use, with consistent cleanliness.

Procedure of Bees (page 35).—This drone may have been hatched late through insufficiency of egg room at time of feeding, especially as they appear forward now for seven frames. Why destroy bees, with brood in all stages, when a change of hives, disinfected well, may have saved them? But one must see to be able to "comment."

Eastern Bee-keeping.—I am disappointed I was unable to see and find out more of the systems and homes of the bee in Palestine and Arabia. I saw very few indeed. There were one or two fine apiaries in Nazareth, chiefly bar-frame, one of which was in an open-fronted shed and looked very nicely cared for; but we were in a hurry, and I had to content myself with a very cursory glance. A. H. Hamshar.

To the Australian Apiculture Students.

(*Continued from page* 209.)

A good plan for increase from box hives is the "shook swarm" method advocated in "Langstroth on the Honey Bee," pages 247 to 473. It is as follows:—When honey and pollen are coming in freely, and prior to swarming, or when the hives are almost full of bees, take a colony (which we will call A), turn it upside down, place upon it an empty hive-body with attached bottom board, and drum the bees from the box by knocking on the sides with two sticks. They will quickly make their way into the hive body. Make sure that the queen has entered with them, and place the forced bees and queen on their old location. Now take another colony (called B), and remove it to a new stand in another part of the yard. On B's old location place colony A, which will be brood and adhering bees. The field force of B returning to their old location will cover the brood of A and strengthen it up a good deal. It can be given a fertile queen 48 hours after treatment. Introduce cage method, as other methods in the hands of the beginner are not advisable, as the temperament of the bees differ greatly according to conditions. It is not wise to do too many colonies too close together at one time, as the bees get out of bearing a deal. If the parent colonies have been given a fertile queen, and both honey and pollen are plentiful, they can be again done in 12 or 16 days. In good localities you can do it three to four times in the season. When you have finished them for the last time, you can leave the parent colonies to rear their own queens. It will take 16 days for the virgins to hatch, and 23 days from the time you forced them you can transfer them to a new hive and full sheets of foundation. The brood will all be hatched and the young queen probably mated. This saves a deal of messing, and you will not have to tie much comb, as the hive will be practically broodless, unless the young queen was mated extra early. Give a frame of unsealed brood to keep them a little busy when you transfer. It is as well to keep watch on the hives with the

queen-cells, as it may swarm when the virgins emerge. If one is used to the bush he can procure many colonies from the trees. He will require two small axes and a rope ladder, and he can get anything in the forest that can be felled. The best way of finding bees in the trees is to go to the water-holes on a warm day, and they can generally be traced by their flight to their hive. There is a fair field for bee-keeping in Australia. The honey produced is the extracted article mostly, although some go for comb honey in certain localities. Yellow Box is the chief yielder of prime Victorian honey. The Government of Victoria has granted bee ranges, which are situated two miles apart. The charge is 1s. 2d. per acre within one mile radius of the bee-yard. There is also bee-disease legislation.

Mr. F. R. Beuhne is Government Bee Expert, and a fine fellow, with a very deep interest and thorough knowledge of apiculture. He will give you many points and much assistance if you are at any time in trouble about bee-keeping.

You will find up-to-date supply houses in Sydney and Melbourne and West Maitland, and in other States. There are many queen-breeders in New South Wales, Victoria, and Queensland. They supply first-class bees and queens. "Isle of Wight" disease has not made its appearance in Australia. Foul brood is prevalent in some localities, but if handled wisely is easily dealt with. The Victorian Apiarists' Association is a going concern, and recognised by the Government. Most States have associations of some kind.

I think these associations will control the marketing and grading of honey in their respective States, the same as in Colorado and California and other American States. It is the intention of several men to put it strongly before them. It would be a good proposition, for I have seen honey in this country labelled "Best Australian" at about 1s. 6d. per lb. I could not procure 1½d. for the same out home. In choosing a locality you will find it wise to pick a spot where there is pollen and honey for the greater part of the spring and summer, as well as the main pasture for your surplus. Honey at present is bringing 6½d. (extracted) in Australia. The 1917 to 1918 summer was a record for honey. Victoria alone produced just under 5,000,000 lbs.

Whilst over here I have visited several bee-men. Mr. Wood, of Glassell, Aberdeen, has a very up-to-date bee-yard, and if in Scotland it is time well spent to go and have a look over his yard. Mr. John Anderson, of the North of Scotland Agricultural College, Aberdeen, will supply you with valuable information if you give him a call. Glasgow also has a fine apiarian section in the College of Agriculture, but I have not had the pleasure of interviewing Mr. Tinsley, who is in charge of that section.

Wishing you one and all every success in your venture.—W. A. Collins, Glenfin Apiaries, Dunkeld, Victoria.

Chesham and District Bee-Keepers' Association.

Bee-keepers and those friends interested in bee-keeping were invited to meet at the Equity Hall, Chesham, on Saturday, May 10, to discuss the best method of assisting each other in the pursuit of the pastime. A local association was formed, to be known as the Chesham and District Bee-keepers' Association. Mr. A. J. Stephenson was elected chairman, the secretary appointed was Mr. E. A. Hayes, 178, Berkhamstead Road, Chesham, Bucks, and Mr. F. Hobbs is the recognised local adviser. Nine members were enrolled, and since the meeting many ladies and gentlemen have declared their willingness to join. There is much enthusiasm locally in bee-keeping, and, notwithstanding the serious ravages made upon their apiaries, many are keen on re-starting, while new beginners are undeterred thereby.—E. H. H.

Re-Stocking in Staffordshire.

The Staffordshire Restocking Committee met on Thursday, May 8, at the County Buildings, Stafford. The Secretary reported one or two criticisms of the conditions of allotment of nuclei to shareholders—one only, however, applying for return of the share paid. The C.C. expert, Mr. J. Price, reported the receipt of eight stocks of Dutch bees, they being delivered in two consignments, each stock being of first quality, also that eight of Lee's Holborn hives, also frames and foundation, had come to hand. The supply of nuclei boxes was left to the Bee Sub-Committee to deal with, it being almost impossible to obtain these small hives in any quantity at a reasonable price, several makers refusing to quote.

After the meeting the Bee Committee visited the apiary. This is situated in an ideal spot at Penkridge, six miles from Stafford. Just try and imagine an old-world agricultural village, the site, so historians tell us, of a Roman city. Two miles south is the Watling Street. The Stafford and Wolverhampton Road is barely 200 yards away, a beautiful church is close by, we can hear the chiming of the clock to remind us that "Time flies" and we must be up and doing if we are to get the most possible for our fellow

bee-keepers out of our eight stocks. The quaint Dutch skeps, which look like a fat cigar-holder, are made of wicker work, thatched with straw, and bound round with wire, with the entrance about 6 in. from the bottom. They stand amongst the trees of a fine old orchard, which are just bursting into bloom, promising a good send-off for the bees. The apiary must evoke many questions from travellers on the railway which runs close to it, the hives and the orchard being just now a fit subject for an artist's brush. Our County Council expert could not have chosen a more suitable spot and surroundings. As queen raising and nuclei making will not allow of indiscriminate visiting, it is proposed to have one, if not two, open days in July, when bee-keepers will be invited to visit the apiary.—G.

Kent Bee-Keepers' Association.

COURSES OF LECTURES TO BE GIVEN FOR THE KENT EDUCATION COMMITTEE.

BROMLEY.—On Saturdays, May 31, June 21, July 5, July 19, August 9, at 3.30 p.m., by Major C. C. Lord, R.A.M.C., at Park House.

GILLINGHAM.—On Saturdays, June 7, June 21, July 12, July 26, at 4 p.m., by Mr. G. Bryden, at The Park.

MAIDSTONE.—On Saturdays, May 31, June 14, July 5, August 2, at 3.30 p.m., by Mr. W. H. J. Prior, at Brenchley Gardens.

RINGWOULD.—On Thursdays, May 29, June 19, July 5, July 24, at 5 p.m., by Mr. A. Graham Porter, at Ringwould Rectory.

Fresh Air to Prevent Disease.

[9916] Many are the articles we have had in the JOURNAL with reference to skeps, modern hives, and "Isle of Wight" disease, and many different opinions. Still the terrible disease stays with us. I have been very interested for a number of years in the various experiments tried by the readers of the B.B.J., and have always had an idea that we bee-keepers have been on the wrong track ever since the modern hive was introduced. I have had good experience to prove this, and if our readers will think for a moment what the honey-bee is, and its use on earth, they will soon come to the conclusion that a chemist's shop should not be required for bee-keeping.

The modern beehive is not the natural home for the honey-bee, but its construction has been designed for the benefit of man, and at the same time labour-saving for the bee. In modernising the hive the comfort of the bee has perhaps been overlooked. What a lot of readers have had the same experience! My strongest lot went first, and how many readers have bought good nuclei on three or four frames, built them up to strong stocks, only to follow the others that have gone before them? Then it is the bee-dealer who gets a bad name. They blame him for selling diseased bees, when it is quite possible no one is to blame. Now I am going to bring one or two instances to the attention of our readers which I think are worthy of note. The first is in reference to a swarm of bees which entered an outhouse roof, in a large garden, in June, 1914. I was asked to get them out of this room in July, 1915, as they became a nuisance, stinging people who went near. The roof in question was of galvanised sheeting, with a thin layer of plaster underneath. The bees were between the galvanised sheeting and the plaster, the plaster forming a floor for the bees and the ceiling of the building underneath. The bees had all the roof to move about in, which would be 12 ft. by 6 ft. When I took the nails out and lifted the sheeting it was the sight of a lifetime to see what the bees had done during the short time they had been there. Slab after slab of honey, in pure white comb, about 5 ft. long and from 14 down to 6 in. deep. About 200 lbs. of honey were extracted from this comb. Two large dome skeps of bees were taken home and put in a new W.B.C. hive. Supers had to be put on to give them room. In one week they drew out the foundation and gave a surplus of 80 lbs. of honey. Then "Isle of Wight" disease set in, and all the bees were wiped out by December of the same year. Other strong lots went under, too, in spite of all recommended medicines being tried. I started again with a fresh lot of bees, and a process of my own which I had thought out. I took a piece of wood out of the back of the inner brood box, 8 in. long by 4 in. broad. In place of the wood I put perforated sheeting. I did this in the back only of some boxes, and some I put perforated sheetings at both ends. Everything went through the summer in fine form. Then wintering had to be tried. Some of the brood boxes had chaff all round, others had chaff packed only down the sides of the brood boxes, great care being taken that each hive was perfectly watertight. To-day those bees that have been given most ventilation are in the finest possible condition, while the

bees that have had entrance ventilation only show signs of the disease. I have also received information this week from a man who has wintered five stocks with no wrapping, only the calico sheeting on the top of the frames, and they are quite all right at the time of writing. Then we read an article in the B.B.J. written by Mr. Lythgoe. He tells us about bees living in an open hedge, building comb and rearing good healthy brood, and living under such open conditions until September, in spite of the rain and wind. Does not this go far enough to prove that the modern hives are suffocating out bees? In my own case, before the perforated sheeting was put in the brood boxes, I have seen bees on summer nights almost choking the entrances, which have been wide open, and all their little wings have been fanning away as hard as they could go. This has never taken place since more air was admitted. There have been hives put on the market long ago that had a round hole cut in the floorboard to admit air, but this was admitted to be too direct on to the bees, and not enough of it in a secondary form. We must be the same with the bees as a gardener is with his plants. Give air to prevent disease. Don't let the bees get "Isle of Wight" disease and then give air. Prevention is far better than a cure, and if we start to give the bee just what the laws of Nature require I think the "Isle of Wight" disease will soon be no more.

We have bee-keepers in this country who are selling, might I say, hundreds of lots of bees annually. No disease seems to trouble them. Would not the B.B.K.A. be more benefited by approaching one or more of these men than the Government. Probably the first thing the man would say is this: "That secret is my living." And if so, give him a good living and a monument as large as Nelson's for the future benefit he would have given the country. I do not wish this article to be misunderstood, for we must give all credit to the men who have spent their time studying the use of drugs—time which must have been long and trying; but evidence proves them to be on the wrong track. Now, has any other reader met with any of these fresh-air experiences?—W. T. E.

Increasing Production.

[9917] In this period of Re-construction, the watchword seems to be "Increased Production," which I take as the text of my letter.

Firstly, a word with the appliance manufacturers. The American manufacturers appear to buy old comb and other crude wax products of the apiary from the bee-keepers, and they do the melting down on a commercial scale with efficient machinery at their own works. The British manufacturers positively forbid us to send old comb, etc., to them, with the result we have a number of small bee-keepers melting down their own wax in a small, messy, and inefficient way, by which method, I venture to state, there is a waste of 30 per cent. of unrecovered wax, if not more.

Secondly, a word with bee-keepers: There are many districts that are too poor to give a good honey surplus. Bee-keepers in these districts try to get a surplus with very poor, or no results. Would it not be to the good of the craft if these men were to lay themselves out for increase only, leaving honey production for suitable districts, and supply their own honey requirements by purchase. Inversely, men in good honey districts would devote themselves to production of surplus. There are plenty of districts good enough to make increase a sound proposition, but very poor for surplus. One might add that the section of increase would carry queen breeding.

This is a specialisation which imposes itself on all human enterprises as they get to an advanced state.—Geo. A. Webster.

[There appears to be an opening for some enterprising person to start a business of buying old comb and extracting the wax. A little experiment and calculation would determine what price could be paid for the old comb to enable the work to be done at a profit. Quantities of old comb are thrown away or burnt and the wax wasted because those who have it are unable, for some reason, to undertake the wax extraction, though the owners would be pleased to sell it for a small sum. —Eds.]

Direct Entrance to Supers.

[9918] I see one of your correspondents has (in letter 9906) gone into the above subject. This was a subject over which I spent some time and trouble. My idea was that it might be some assistance in reducing the congestion of the hive by doing away with the passing through the brood chamber, and so have some influence over the swarming trouble, which was then a source of worry to me. However, for other purposes I made two entrances lower down, and the result was such that at that time I came to the conclusion not to try what I had proposed doing.

To understand the position of the two entrances, I have my stands 6 in. deep. They are capable of taking a full set of shallow frames. The front entrance is then level with the top of these frames,

and the back entrance is level with the bottom of the frames. I find the second entrance relieves the congestion of the front entrance, for the bees use both entrances willingly, although they prefer to go in at the front and come out at the back—perhaps in the proportion of 9 to 1. Although I knew that the bees did not care to work frames in the stand, yet I did not expect to have absolutely no results. They even did not seem to care to be on these frames, and went at once higher up. I summed it up that between these two entrances there must be a constant circulation of air, perhaps draughts which they objected to, so that if I tapped into the yet higher super I might do a lot of harm.

The idea of a rubber pipe entrance to the super is ingenious, but would be objectionable to them for that reason. It would let out the heat from the warmest part of the hive, and, although quickly stopped up if necessary, yet it is only on rare occasions that it is safe to have a leakage from the top. It is safest to have all well covered up, and let the bees themselves reduce the temperature by coming out for a flight if necessary.

My idea had been to cut a 6-in. groove from the bottom to the top of the front end of the brood chamber. If the frames are parallel to the entrance the groove could be inside, or outside of brood chamber, but in the case of frames at right angles it would be only available on the inside face. After this groove is made it could be covered with a piece of very thin material; if three-ply wood was used it might be let into the surface flush.

This would form a kind of shaft from bottom to top. The bees could enter it from the ordinary front entrance or go straight on. It would be necessary to make a number of small holes from bottom to top in the dividing wood between shaft and brood chamber; this is to equalise the air temperature and make the shaft in a sense part of the brood chamber, and so prevent the air rushing from the cold end to the warmer end of the shaft. Some of the holes could be bee entrances to the brood chamber. There are other ways of making this shaft, or passage; for instance, by nailing ⅜-in. strips about 6 in. apart on the outside of chamber and covering over with three-ply wood; or, again, by using the end part of the W.B.C. brood chamber to form such passage by covering the end outside completely by a piece of three-ply wood. If the passage was of large capacity, and plenty of bee-ways cut in vertical side to allow the bees to go into the hive every few inches up, it might be possible to completely stop up the entrance on the floor level, but if this was done the bees would not be able to bring out the disabled ones. This would be of importance in hives which have not an entrance at a still lower level, such as mine has, so what would suit one hive will not suit another. But, perhaps, after a temporary stoppage from going straight in to learn the other way, they might use it afterwards, but this would be found out by experiments in actual use; it is practice that upsets our calculations.—Perhaps I may further on have some information on these points.—F. B. CHARLTON, Stockton-on-Tees.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"ASTRA" (Enderby).—*Disinfecting shallow combs.*—Soak them for several hours in disinfectant and water.

B. J. (Enfield).—*Two queens in one hive.*—The most successful method is to follow the Wells plan, with all the combs in one box and the queens separated by a thin wooden division thickly perforated by ⅛ in. holes. The plan of keeping two queens in body boxes one over the other and separated by a queen excluder may be successful—and it may not.

C. M. P. (Yarmouth).—*Will old or young queen survive a duel.*—The young queen will be most likely to win.

"LEIGH-ON-SEA" (Essex).—*Close spacing combs.*—Give the proper space of approximately 1½ ins. when the combs are drawn out. There is no object in keeping them close when worker cells are built out.

H. G. PANNELL (Surbiton).—*Working for increase.*—Try the "Somerford" plan given in the JOURNAL on January 23 last.

E. TURNER (Winchmore Hill).—*Rearing queens.*—If a colony has been queenless a week they will raise queen cells if a comb containing eggs is given them. If all the brood has emerged give a comb containing brood emerging from the cells, as well as eggs. If you wish to rear queens from any particular mother it is better to allow the colony in which they are to be reared to be queenless about nine days, and destroy all queen cells before inserting the comb of eggs.

T. Y. (Brecon).—We do not supply appliances. Send to any of our advertisers for a catalogue.

D. B. (Pem).—Yes, all queen cells must be destroyed before attempting to introduce a new queen.

H. S. (Derby).—The Secretary, The Horticultural Sub-Committee, County Offices, St. Mary's Gate, Derby.

"PARKER" (Glos.).—Sorry we cannot say at present.

H. F. (Drift).—(1) Yes. (2) This is very likely to occur. (3) Yes. (4) Yes; about 12 hours. A queen may be kept several days in a travelling cage if there is food in it, and she is accompanied by up to a dozen workers. The best place to keep her is over the calico quilt and under the others on a strong colony.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 11 and 12, at Truro.—Royal Cornwall Show. Five Open Classes for Honey of any year. Schedules from Miss Alac Buck, Bosvigo, Truro. **Entries close June 4.**

June 24 to June 28, at Cardiff.—Royal Agricultural Society's Show, Bee and Honey Section, under the direction of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from The Secretary, 23, Bedford Street, Strand, W.C.2. **Entries close Monday, May 26.**

July 23, Wyke and Normandy Horticultural Society Flower Show.—Open Classes for Section and Run Honey. Section honey prizes, 5s., 3s., 2s.; run honey (1919), 3 1-lb. glass jars, prizes, 5s., 3s., 2s. Entrance fee, 6d.—Hon. Sec., H. S. Mumford, Heatherside, Normandy, near Guildford

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Special Prepaid Advertisements

One Penny per Word.

PRIVATE ADVERTISEMENTS.

FIFTY Section Racks, each to take 24 sections, price 2s. each to clear. Would fit with sections if necessary.—Box 19, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. q.76

WANTED, several good Stocks and Swarms healthy bees. Good price given for good bees.—State price, and full particulars, GOLDEN, Leire, Lutterworth, Leicestershire. q.77

ITALIAN BEES, Hives, Extractor, Ripener, sundry appliances, all new. Stamp reply, please.—C. GREEN, Winterley, Sandbach. q.100

FOR SALE, 12-frame dovetailed Hive, 27s.; Nuclei Hive, 12s. 6d.; nearly new.—6, Eastwood Avenue, New Moston, Manchester. q.101

BEES.—A few healthy Swarms to offer.—GILES, Cowsfield Nursery, Salisbury. q.102

THREE W.B.C. Hives, complete with excluders, six Section Racks, two single-walled Hives, with four supers and excluders, also Smoker, £4 15s. the lot. Good condition.—J. GUISE, The Mount, Wadhurst. q.103

FOR SALE, owner going away, three strong, healthy Stocks, Taylor's Hybrids. No. 1 in brand new W.B.C. hive, supered on 20 drawn-out frames, £7 10s; No. 2, single-walled hive, supered on 10 drawn-out frames, and rack sections, £6 5s.; No. 3 strong stock in skep over frames, transferring themselves in a Meadows' observatory hive, £5; also a Geared Extractor, 45s; or the lot, including another skep, smoker, veil, frames, etc., £20.—LANGLEY, Inglenook, Saltney, Chester. q.104

FOR SALE, strong, healthy Stock of Hybrid Italian Bees on 10 frames, 1918 Queen, £3 10s.—SAUNDERS, Grove View, Derby Road Sutton, Surrey. q.105

TWO lots pure Italian Bees on five frames, guaranteed Penna's Queens imported direct, £4 4s. each. Delivery June 26.—Box 25, B.B.J. Office, 23, Bedford Street, W.C.2. q.106

CONQUEROR HIVE, commercial chamber and three standard chambers, 63s.; W.B.C. Hive, 30s. Ready for delivery.—SEAL, Joiner, Tutshill, Glos. q.107

THIS season's Extracted Honey from fruit blossom, guaranteed pure Somerset. What offers for ½ cwt.?—WYATT, Bishopswood, Chard. q.108

FOR SALE two small Stocks of Bees on eight frames, hybrid Italians, guaranteed free from "I.O.W." disease, £3 10s. each, carriage paid; box 7s. 6d., returnable.—174, Jockey Road, Sutton Coldfield, Birmingham. q.109

FOR SALE, 10-frame ornamental Brood Box, three sides glass, suitable for observation, 10s., carriage paid.—CRUICKSHANK, Stationmaster, Grantown-on-Spey. q.110

SUMMER Board near apiary wanted by lady; high, bracing, quiet.—Q, Box 26, B.B.J. Office, 23, Bedford Street, London, W.C.2. q.111

FOR SALE, Cowan's Geared Extractor, purchased new last year and has not been unpacked since received from makers, 90s.; Shallow Frame Box, eight extra wide frames, fitted full sheets Weed foundation, 9s. 6d. — MISS EDMUNDS, Chokderton, Salisbury. q.112

VACANCY for Manager with small capital in apiary and bee appliance business, London area; good prospects.—Apply, by letter, "X.," c/o H. DEANE, Solicitor, 265, Strand, W.C. q.113

WANTED, strong Swarm. State approximate weight, price, and variety.—WARNEFORD, Village Road, Enfield. q.114

FOR SALE, White Honey. 1 lb. jars honey, about eight dozen, 21s. dozen; 3 x 56 lb. tins, 80s. each; samples 5d.; carriage paid.—HEATHER BROS., "St. Aubyn's," Heathview Road, Thornton Heath, Surrey. q.115

NINE W.B.C. Hives for Sale, some quite new.—WILCOX, Dyke, Bourne, Lincolnshire q.116

FOR SALE, seven Stocks on 8 and 10 frames at 8s. 6d. per frame, carriage paid; travelling box 5s. extra, returnable. May Swarm on six new standard frames, 42s., carriage paid; travelling box 5s. extra, returnable. Six Hives from 14s. to 20s. each. Deposit.—DRAPER, 2, Yew Tree Villas, Park Gate, Swanwick, Southampton. q.118

THE Cambs. "Skyscraper" Hive, as illustrated in "Let the Bees Tell You," will be ready for delivery by clover blossom. Specifications and prices sent to anyone interested.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.124

FOR SALE, W.B.C. and other Hives, Supers and other Appliances. Full list on receipt of stamped envelope.—RICHARDS, 82, Grosvenor Avenue, Carshalton. q.44

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks Winner of three 1st prizes at three Royal Shows

ITALIAN NUCLEI, three frame, with young fertile Queens, 30s.; four frames, £3; Fertile Queens, 9s. 6d. each; Virgins, 4s. 6d. All from Simmins' and Penna's strains.—W. J. WATTS, Conway Cottage, Newtown, Upper Parkstone, Dorset. q.92

1919 IMPORTED Golden Italian Fertile Queens.—Orders booked and executed in rotation. Regular supplies throughout the season Price 14s. 6d.; specially selected, 17s. 6d. Cash terms. Stamp for reply.—GOODARE, New Cross, Wednesfield. q.42

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

"Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

WOOD for Hive Making.—1 in. planed boards, 22 in. by 15 in., 10d.; 22 in. by 8 in., 6d.; ⅞ in., unplaned, 27 in. by 4 in., 3d. each; all second-hand; tongued and grooved joints.—SMITH, 72 Norton Street, Hockley, Birmingham. q.94

BEES, BEES, BEES.—Strong healthy Stocks on six frames, £4 10s. each. June delivery. Cash with order.—PEARSON & GALE, Marborough. q.117

ITALIAN Virgin Queens, bred from Penna's and Simmins' strains, 5s. 6d.; home-mated Queens, mid-June onwards, 10s. Safe arrival guaranteed.—MISS PALING, Golden Square, Henfield, Sussex. q.120

STRONG Stocks on eight wired standard frames, brood and stores, 1918 Queen, £4 10s.; case 7s. 6d., returnable; 3-frame Nuclei, 1919 fertile Queens, 37s. 6d.; case 5s., returnable. Orders booked for Fertile and Virgin Queens.—W. WOODS, Normandy, near Guildford. q.121

QUEEN Rearing and rapid increase Outfit, with British and American instructions. 15s. 6d. Swarming impossible with our right up-to-date appliances.—MEADOWS, Syston, Leicester. q.122

STRICTLY BUSINESS.—A copy of "Intensive Bee-keeping" sent free with a 1s. order for Flavine. A Japanned Sprayer 5s., post free.—S. H. SMITH, 39, Maid's Causeway, Cambridge. q.123

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE 28a, Moy Road, Cardiff

DUTCH BEES.—Several consignments of Bees in original skeps imported direct from Holland.—For prices, etc., apply THE BEE FARM, Cumbernauld Station, Dumbartonshire. q.95

NUCLEI containing one bar of brood and bees, one bar stores, and one bar foundation, with ITALIAN QUEEN, 35s., plus 10s. for travelling box.

NUCLEI, containing two bars brood and bees, one bar of stores, with ITALIAN QUEEN, 45s., plus 10s. for travelling box.

We pay carriage and refund 10s. for each box if returned within seven days.

FERTILE ITALIAN QUEENS, 1918, 12s. each. Please order in advance.

About 200 Second-hand HIVES, 10 bar, 11s. and 15s. each, guaranteed sound and healthy, mostly Taylor's make.

D. ALLBON,
SUNNYSIDE, HITCHIN. q.119

THE Governors of the West of Scotland Agricultural College invite applications for the post of ASSISTANT LECTURER in Bee-keeping.

The salary is £100 per annum, plus war bonus, which is at present 23s. per week. Applications, stating age, scientific training, if any, and practical experience, must be lodged with the undersigned by June 21.

JOHN CUTHBERTSON,
Secretary.

6, Blythswood Square, Glasgow,
May 24, 1919.

LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford Road, Luton, Beds.

The Royal Show.

We are sorry to learn that still, even after our appeal a fortnight ago, the entries for the Royal Show are very disappointing. They are so few, in fact, that unless many more are forthcoming the honey section of the Show may have to be abandoned. This would be nothing short of a calamity, and in order to give a further opportunity the time of closing for entries has been extended to Monday, June 9th. We have had splendid weather for bees. Surplus has already been harvested, and there is every prospect of a good season, so there should be no hesitancy on the ground of the uncertainty of having honey to exhibit, and we hope the number of entries will, by next week, be up to the average of previous years.

A Dorset Yarn.

A letter forwarded from the "B.B.J." Office, sent by a reader of the "Yarns," asks about lifting front of hive for extra ventilation, of which I wrote a week or two back. It is nothing new, as it has been recommended for a generation. Just lift the outer case off the floor board, and insert a half-inch strip beneath, at each corner; it lets the air more freely into the hive, and saves the bees so much labour in fanning at the entrances. It is better to have a way in along the whole front in the busy season; bees are more prone to swarm when very hot, than when more cool. One strong Italian stock which has already filled two racks of sections refrained from swarming until this week, owing to the extra ventilation. The smaller the hives, the hotter they are with so many bees, as there are in May and June, all tends to early swarming. That is the reason that skeps throw out the first swarms, it is too hot in the hive so they hang about on the outside. The modern plan pf placing beneath the stock another lot of bars with foundation fixed in them, gives extra ventilation below, and retards natural swarming; besides, it gives one extra drawn-out standard frame of comb which are so essential to profitable bee-keeping, as one always has plenty of combs for swarms to at once start their queen on brood raising.

The bee-keeper who gets off two racks of sections before May is out, is very well on the way to success. I have several others which have two only partly filled. These swarmed, and the population has to be built up again before there is the great number of bees to carry on as before. That is why natural swarms in May are always the least trouble to bee-keepers. Given a good start, on clean frames, some with drawn-out cells and the outer ones with new foundation, the queen will get to work in quick time, as the workers soon repair the centre cells for her to lay in them. The first hybrid swarm I had have in ten days drawn out the centre lot of sections which were placed over them after they were safely in their new quarters. These set to work collecting stores; there are no males, or very few, as most of them go back to the parent stock. No more will be reared for a month, as the queen fills up with workers first, and these will fill three racks before any fear of swarming. Most writers advocate wintering some bees in skeps for early swarms. I know of nothing better, only do not put them in old skeps, in which bees have gone under with disease, as happened to one of my neighbours with his first swarm. He was away at work, and they were hived in an old skep in his absence, and now they have started "crawling" instead of flying—and many seem to winter better in them. It is not always so, as we have some go under in skeps, but they are the most safe with us.

Our lot are now very interesting. The old stocks have two racks on, the swarm only one; we have the glass covering so that visitors can see how they are progressing. Some of the visitors do not like to leave them; they are not used to moving round the farm in quick time, as they are mostly of the leisured classes.

As each lot now throws out a natural swarm, I bring them in and place the skep over the bars prepared for them; shall not leave them again till cool of evening, as books advise one to do; they have looked out a home, and they will be off to it, if not satisfied with the empty skep. They have taken to the bars all right. The skeps which I use for swarms have a hole in the top in which I have a roll of paper; if they have not gone down into the frames by evening a few sharp raps on the skep shakes them on to the bars, and what are left in the skep are placed in the entrance at night time; they very soon go into the hive where the rest have already taken possession. One cannot afford to have swarms

fly away at these times, when bees are scarce, and one has paid £5 for them only a month or two previous. There will be but little profit for the farm on this lot, only the work they did in pollenising the fruit blossoms.

The weather, though unfavourable to growing crops, is just fine for bees; a large field of scarlet clover close to the farm is a boon to our lot; they are on the flowers when it is cut for the horses at seven in the morning until 8.30 at night. On the rasps they are with the flowers till nine in the evening, we have just now been regulating the growths so that the young canes should not cover up the flowering laterals; we want all flowers to be out into the light and air. Bees are with us the whole time, singing their glad song of happiness. I see that some come home covered entirely with yellow pollen; the whole bee looks like another sort, so yellow is every part of it. They get it from the yellow broom; they have to open the flower and get into the heel of the flower for the stores that are there; it is a pea flower, as is the False Acacia and the beautiful mauve Wistaria, just now in full bloom. Bees go to them all, but not in numbers as they do the rasps. In Root's "A, B, C, and X Y Z," there is an article about the wild rasps in some of the States. Can agree with the writer that rasps are a fine crop for bees. I hope the birds will carry seeds of our lot to the woods and roadsides, as the many flowers will all add to stores at the farm. They bloom from May to September. We have the loganberry in bloom as well; some of them round the hives, so our bees ought to do well just now. What a wealth of blossom these loganberries carry! Each season the flowers are so many, and they give such heavy crops; less trouble and much heavier crops than rasps. The jam they make is very fine, and young plants are much sought after. Plants have changed hands this last planting season at £5 per 100. This plant is like the blackberry family, the end of growths touching the soil forms a young plant, as it roots the same as blackberries. There is another one that does not grow such long shoots as the loganberry called the phenomenal berry (it was written of by Mr. Harwood). This one has more of the raspberry in it than the loganberry, as every piece of root left in the soil will start a growth and make a cane, as do the rasps, which proves there is more of the raspberry in this hybrid, but bees resort to the blossoms in great numbers. It is well that bee-keepers who are growers of fruit should plant these things largely, as they bloom for a long time; where apples and pears are ephemeral, only last a very short time, compared with the rasp family. On each lateral growth of rasps there are ten to fifteen flowers, opening after each other, where apples open all at once and finish.—J. J. KETTLE.

Legislation.

What a bugbear this word seems to be to some people! I think every brother-secretary of an Association and all touring experts, especially the older hands, who remember the old days when we thought foul brood the worst of our troubles, and opposition was an almost daily experience, will bear me out when I say, if our craft is to get a fair chance in this generation, we need something to strengthen our hands.

Education is excellent; our senior Editor knows, and could describe better than anyone, the improvement in bee-keeping methods that have followed since he first started the B.B.K.A. The number of County and District Associations affiliated to the parent are proof sufficient of the value of education, but it has been a long and slow process, and must continue to be so. There are scores, if not hundreds of bee-keepers, of whom I am one, who for years have been held up in our efforts to combat, originally, foul brood in its various forms, and latterly *Nosema apis* by bee-keepers who refuse to learn, who come under those described by Mr. Leslie Burr, in "Root's Cyclopædia," and quoted by Dr. Abushâdy, page 15, *B.B.J.*, January 16 this year; but unfortunately "there are in almost all communities some bee-keepers who are either ignorant, careless, or wilfully negligent. If any of these will not voluntarily care for their bees, there must be some legal means of compelling them to abate a public nuisance when disease appears among their colonies." Mr. Burr then goes on to state how laws are drafted. Lucky America!

I have read all Dr. Abushâdy's articles with care and interest, and thoroughly appreciate the several new points of view that he has brought to the notice of the craft. I agree with him, on page 8, *B.B.J.*, January 9: "1. Government supervision, 2. Research," being two of the main factors on which we must rely for "an effective *prevention* of the disease (and consequently—to a greater or less extent—an effective *treatment* also)" . . . "*Both* are vital for safety and progress." Again, in the *B.J.*, January 16, he deals at some length with Government supervision, and quotes Mr. Leslie Burr with gusto. Again, I agree with him, but he

must forgive me if I think that in his remarks on the action taken by the Northumberland B.K.A., April 24, he has only thought of the educational side of State supervision, and ignored, or forgotten, the fact that even in Mr. Barr's article which he quoted with such appreciation, there is what I may call a defensive side in legislation. "Laws providing for inspection of apiaries with the object of controlling diseases are, therefore, drafted primarily for the bee-keeper who does not voluntarily treat diseased colonies," thereby, I take it, "compelling them to abate a public nuisance." I was still soldiering when my Association passed this resolution, but I was very pleased "to hear tell on't," and now that I am back, and taken up my work again, I am out to do what I can to help them. What the Northumberland B.K.A. want, and I have small doubt many another, is protective legislation. "This includes bees," three simple words, but what a difference their inclusion would have made years ago —what a lot their exclusion has cost bee-keeping. Foot and mouth disease, anthrax, swine fever, etc., how were they first got under control and since have been kept within bounds except by legislation? The Doctor seems to me to have an unreasonable and misplaced horror of bureaucratic measures, and appears to think that our resolution is asking for trouble.

I confess that I do not share his fear. "Farmers always complain" is an old saying, but they know well the value of control in the case of disease among stock. If bees had been included in the Act, in cases of epidemic affecting whole districts, a "stand still" order would have gone far to confine the disease, and by this time I firmly believe it would have been pretty well stamped out. Instead, what has happened? Year after year disease has spread; too often been wilfully spread by the sale of more than doubtful stocks, by moving bees from district to district, by efforts to get a heather crop at all costs—too often at the cost of neighbours' bees on the moors. Take our own moors, embracing a large part of the Cheviots. "Isle of Wight" disease was introduced by two diseased stocks being brought to our southern moors from a neighbouring county. Result, a whole set of moors ruined, and loss to every bee-keeper who had sent to them. Next year, "Oh, well, better luck on such and such moors. I'll send them there," seems to have been the idea in many men's minds. More moors ruined. I toured lecturing, I wrote, I got bee-keepers together, and for some time managed to keep our Northern moors clean. All to no purpose, diseased stocks were brought from over the border, and now I would not guarantee we have a clean moor left. A "stand still" order would have prevented this cruel waste of bee-life and loss to our bee-keepers. Education is first-rate and invaluable: research will do a great deal; but it will be decades yet before bee-keepers are brought up to the happy standard of knowledge when experts will no longer be required, because all will have equal knowledge. In the meantime, however, are we to have *no* protection, for fear of bureaucratic control, or some other myth? If the country produced the brains to successfully tackle all the problems of the war, surely it can produce men to deal sympathetically, wisely, but at the same time firmly, with the bee-keeping situation as it stands at present. I have only just got back to my beloved bees and bee-work, after over four and a half years, and it is simply heart-breaking to find the wholesale devastation in all districts. Nearly every case can be traced to the movement of unhealthy stocks.

We have started the Government scheme of restocking, in addition to our own Association scheme, but with the county diseased from end to end, there is a big risk. As things are, there is nothing to prevent anyone who takes a fancy to the locality from bringing unhealthy stocks *and dumping them next door to the re-stocking apiaries!* What price the Government stocks? They are spending money helping us with bees; surely they must see the risk they run of dead loss, and no results, for that is what disease getting into a re-stocking apiary means. When are they going to protect themselves—and us?—F. Sitwell.

Experiments with Apparently Dead and Dying Bees.

As the writer of the first letter on the above subject, may I contribute further to it. I am sorry I am not in agreement with Dr. Asbuhády, and that the weight of my previous experiments went to prove it useless to provide artificial heat to bees that had once been chilled. I did not carry out the experiments to prove such was the case, but in the hope of saving some of the bees, and I should yet be very pleased, for the sake of the bees, if it were proved otherwise to be what I suppose is the case.

To widen the scope of the correspondence to include the question of supplying artificial heat to all bees in general was not my intention, but as he has done

so, I will add a few remarks as to how I view this subject.

Anyone who has seen how the bees propolise every chink, and even coat the under surface of the calico cover in preparing to winter, has noticed how anxious they are to be able to conserve the heat of the cluster. Heat is life, but the point is, can we supplement their heat in a handy form, to be of any benefit to them.

Dr. Asbuhâdy advocates a regular supply of gentle heat, can I assume he would take as a guide the temperature of a winter cluster of bees, and not allow the temperature of the supply to be below it; and, if above, to be only slightly so? Because if the bees became excited through the extra heat they would consume more food, and also produce more waste, which, in case of prolonged confinement, would be disastrous to them.

We can now consider the several conditions of bees to which this heat can be applied; first, the healthy ones, when covered up for winter, under reasonable wintering conditions, these would have no difficulty in maintaining proper heat for themselves, and, perhaps, more according to Nature and better for them to do so, for they must consume food, which means heat evolved, and they would be less enervated and hardier than if wintered in artificial heat, and an owner of such stocks would find it more convenient to properly attend to them, and see that they had enough wraps, or covers, than to attend to a heating system however simple it might be.

In considering those stocks which are healthy at first, and become unhealthy further on in wintering, the bees have a strong desire to leave the cluster, they wander away, perhaps, they may fall to the floor board, if the natural heat of the cluster will not keep them together, artificial heat, at about the same temperature would not, and to increase the temperature would only excite the other bees, so in avoiding one error we fall into another.

In the case where a stock has become so reduced as to be unable to keep up proper heat, there are, no doubt, advantages in supplying heat to try and pull them through, and the higher the percentage of such in an apiary, the more the benefit; but the point is, how are we to supply such heat in a very handy form, although this subject has been before the reader for the past two winters, no one seems to have solved it, at least they have not given any information of such. The climate of England is so very variable that the temperature may vary every few hours, which must be taken into consideration.

Hot bricks and water bags are a trouble, electricity not available generally in the country, a hot-water system, with separate coils in each hive would answer perhaps the best, but the expense and permanency required would be against it, and as for bee houses, I will deal with those presently.

In considering my experiments, they were carried out during last year before and after packing up for the winter, the bees would be mostly young bees, and not be run down through passing through the winter, and as I was interested only in chilled bees, I collected them during cold weather, when an interval of three weeks occurred it was during milder weather, and although no doubt some few were, and had been dead some time, yet these were of no account to the amount which had been chilled the previous night, and were laid feebly kicking and moving their legs about. I certainly disclaim any desire to try and bring back to life bees which had been dead such a long time.

The plan of trying to return marked bees to the hives was also followed, and which might answer in the case of one or two hives with Dr. Asbuhâdy, yet was a failure when tried with ten hives. I certainly found them again, excepting some few which may never have reached the hives, and when I considered that these bees had probably been evicted from the cluster, or gone wilfully to get the "happy dispatch," and been unconscious for some time, so that when brought round they would not be able to find their own hive, and if they did would be such questionable visitors they would get a warm reception, so that I could not accept the evidence of such results.

I did not make any loose statement regarding the effect of damp. I try to be accurate, and the following statement of losses of stocks in recent years will show I have reason to dread damp months:—I lost one stock in each month of September, November and January, six stocks in February, and three stocks in March. The total is for two years losses, it will be noticed they are all winter losses, and mostly in the wet, slushy months of late February and March.

This brings me to the question of a bee-house, which I believe in, but not for the purpose of providing a heating system, but for some protection against damp, although, if I found it becoming saturated during wet weather, I would take means to dry it; but there is one objection against them in certain cases, which Dr. Asbuhâdy seems to have missed, which seems strange in a medical man, and which I hope he will excuse me

bringing to his notice, it is, if the "Isle of Wight" disease is an infectious one, in the sense that it may be air borne, or even easily passes from one stock to another, it is a dangerous practice to bring a number of stocks together in such small compass, and where a warm, and maybe a moist, warm atmosphere may increase such danger, so that if anyone is considering such an expensive addition to his apiary, it would be advisable to consider the danger, and make some provision against it which may be overcome. —F. B. CHARLTON, Stockton-on-Tees.

"Isle of Wight Disease"—A Suggestion.

I have to thank Dr. A. Z. Abushâdy for his criticisms of my communication on the above subject.

Before taking his remarks seriatim, I beg to confirm my critic's suspicions. Exigencies of space, Messrs. Editors', I presume, led you to use the blue pencil rather freely. In the article to which Mr. Abushâdy refers I stated that, whilst I had prefaced my remarks with the suggestion that "Isle of Wight" disease may be "accelerated senile decay brought about through overworking the colony," I did not wish to be taken too literally, and I stated that the disease might be organic after all. Just as in the case of man, I said Bacillus influenzæ is omnipresent, but it requires certain, more or less, subtle conditions before it can find a host. Nevertheless, I maintain that senile decay is a pathogenic condition leading to, and possibly essential to, the incidence of "Isle of Wight" disease. Then again, in my first letter on the subject which appeared in December, a remark of mine, "After all, are we not dealing with an old enemy under a new name," was also cut out before printing.

With this premise I will pass on to consider Mr. Abushâdy's welcome criticisms. [We have referred to the original letters sent by our correspondent, and find they were printed exactly as written, not a word was deleted.—EDS.]

(1) *The Immunity of the Skep.*—The question of infection in my suggestion or theory is satisfied by what I have repeated above. The remarks about old-working bees are quite in order, but I did not suggest that such, crawling in front of the hive, constituted "Isle of Wight" disease. On the other hand, I think my critic will find it difficult to substantiate the statement that nursing bees may not be forced by stress of circumstances to issue to the fields prematurely. The very fact that the worker bee spends anything up to 10 days as a nurse, when her wing muscles have been fully developed within three days from emerging from the cell, proves that my contention cannot be dismissed by a simple contradiction. In regard to the robbing of the brood nest of stores, I repeat that it is quite common, and, indeed, necessary and desirable, to have a brood chamber of ten combs so full of brood that not more than 5 lbs. of stores are contained therein when the supers have been removed. It is not the manipulation of the supers, as Dr. Abushâdy states, but the manipulation of the brood combs which determines the proportion of stores and brood in the lower chamber. I will not say it is impossible, but what I do maintain is that it is highly improbable that a skep, supered or not, ever contains the high percentage of brood which a properly managed colony in a bar frame hive will. In other words, the space factor of the brood chamber is in the one case what the bees make it, and, in the other, what man by his interference succeeds (and sometimes fails) in securing.

My esteemed critic asserts that senile decay never exists in summer. I will refrain from arguing the point as it turns entirely on the definition of senile decay. Dr. Abushâdy prefers "overwork" and "exhaustion." I am content to allow him this point, but all I wished to explain was that we here in Great Britain may possibly be so overworking our bees as to bring about certain physical conditions—harmless enough in themselves—but such as lay the bees open to attack by a malady which we are pleased to call "Isle of Wight" disease, despite the fact that the cleverest bacteriologists frankly own they are unable to distinguish it from what is variously termed "bee paralysis," "male di Maggio" (not mal de Maggio) which, like influenza in man, may be due to one or more distinct bacilli, and, or, cocci, singly or in combination. We have yet to find a specific, an antitoxin, or a vaccine for influenza, and are likely to wait longer for one for "Isle of Wight" disease, for I am convinced it will be impossible, inasmuch as I do not think it is a disease in the sense of foul brood in bees, or smallpox in man. Medical men tell us to keep fit, and influenza will not trouble us; and I would say, keep your bees fit and "Isle of Wight" disease will not trouble them. I admit that my tone has become dogmatic. Dr. Abushâdy will rightly object to it, but even he will acknowledge its usefulness for engendering an interest in certain phlegmatic temperaments.

To my critic's remarks on wintering I agree whole-heartedly. That, however,

does not infer that old bees are useless, or a menace to the colony. Old bees are required and are as necessary as young ones at the right time. How many times has the question been put: "My hives are crammed full of bees, but they won't climb up into the supers; what is wrong?" The reply is, "Too late, my friend." On having matters explained to him, the disappointed one would be quite willing to pay much for 3 lbs. of old bees if he could get them! My point is that our bees must not get old too quickly or the queen cannot follow up.

(2) *Confinement of "Isle of Wight" Disease to Great Britain.*—Here we come back to the starting point. Pointing out in passing that *Nosema apis* was the name given by the late *Frank Cheshire* to a parasite or bacillus he discovered long before our friends in America knew anything about it, I would state that I personally had a stock of Italian bees in Italy, for which an experienced British apiarist would have diagnosed "Isle of Wight" disease, but about which an old Italian bee-keeper said: "Don't worry about that, it is only 'Male di Maggio,' which will pass off." And so it did, but I am convinced that the colony, if it had been here instead of in sunny Italy, and had received the same treatment (left to itself) it would have succumbed. What the Italian climate did for that colony, the owner here with sugar available can do equally well. With the remaining remarks under this head I am quite in agreement. Ample stores at all seasons *and above all during April and May in Scotland, and March and April in England,* will go a long way towards stamping out "Isle of Wight" disease. There is a trap (a fatal one) to the inexperienced in calling the bees' capital "Winter stores." If it were called "spring stores" we should hear less of "Isle of Wight" disease. In winter the bees, if properly protected, can exist on a consumption of $\frac{1}{2}$ oz. per day; whilst in March, if raising brood to any great extent, the consumption may go up no less than 32 *times*. These are figures I have proved the accuracy of by actual weighing.

(3) (4) and (5) *Prolificacy of the Queen, etc.*—I confined my comparative remarks to British and Italian bees for the reason that I know nothing of any other. So far as my knowledge goes, Dutch, German, Swiss and Austrian bees are all the same—Blacks or *Apis mellifica*—they certainly do not differ much from one another. I think natural immunity is a will-o'-the-wisp, and hardly worth discussing in view of what Dr. Abushâdy says under *Nosema apis*, and if my contention should prove to be correct, I did not suggest that brood should be limited, but that the stores should *not* be limited, an entirely different thing. The secretion of brood food is exhausting, as can easily be proved experimentally, but that is no argument in favour of limiting the brood. All the same, if any person out of academic interest wishes to secure all the symptoms of "Isle of Wight" disease, let him take a natural swarm and hive it on as many frames of foundation as it will cover, and do not feed. As quickly as they are drawn out insert fresh foundation in the centre of the cluster until the brood chamber is full (of eggs sterile for lack of heat) and "Isle of Wight" will be rampant before he is finished extending. Essential conditions, good bee weather, and plenty of forage. The excessive work cast on the bees to feed the queen for the production of eggs far outside the needs of the colony is quite sufficient to wear them out. I have experienced it personally, but at that time I knew nothing of "Isle of Wight" disease.

I do not agree that a natural swarm comprises nothing but adult bees. It was generally accepted by the bee scientists, like Cheshire, Langstroth, and others, that a natural swarm was a perfect balance of young and old bees arranged by nature to suit natural requirements. That, however, is a detail beside the main point which is that what we term "Isle of Wight" disease, can be brought about at will. Whether it is the result of infection, or whether it is premature death of individual workers matters little. We shall have won the race with the bacteriologists if we can command with certainty the incidence of the disease. Thence it is but a small step to prevention.

I would ask those with the necessary equipment to try to bring about the disease on the assumption that overwork, extensive brood rearing on income with no reserve of stores and spoliation, are the foundations of the trouble. It means at least two colonies set up during the honey flow, one to be run normally, the other with similar queen to be forcedly expanded as indicated above; two more colonies, the experimental and the control colony, to be dealt with after the honey flow. In the experimental colony the brood should be a maximum and stores a minimum in the lower chamber. This colony would be fed up for winter as late as may be possible to ensure capping of the stores, whilst the control colony would be fed up immediately the supers were finally removed. Valuable information, if not confirmation, of my theory, would be forthcoming.

By all means let bacteriology continue to lend a helping hand, but it is time the

disease was attacked from a different angle, and I submit that the foregoing is worthy of the attention of those with the necessary plant, technical skill and ability to conduct experiments which shall be something more than a waste of time and money.

Further criticisms are invited.—H. M. STICH, Paisley.

Notes and Comments.

I have now finished the perusal of another nine months of the JOURNAL, but beyond noting much that is delightfully pleasurable reading, including, I am glad to see, a return of our good friend D. M. M.'s lucid and original contributions, there seems to be nothing that calls for comment except the articles of the welcome recruit, Dr. Abushâdy, on the question of artificially warming hives in winter. At first it is difficult, in the light of all the flatly contradictory teaching of generations, backed, as Mr. Pike has shown, by practical results, to resist the temptation to regard the suggestion as, shall we say, a curious aberration of the medical gentleman's. But, on the other hand, as my own experiments (c.f. *Nature*, 1912) have shown, there is no doubt whatever that in summer, the higher the temperature the better the bee's results, and Dr. Abushâdy's contention certainly leads one to ask: if in summer, why not in winter?

I think the answer can be found very largely in the fact, which was the cause of some little jarring in the JOURNAL the previous year, that bees and flowers cannot be separated, and it is a matter of extreme difficulty to say, in regard to summer, whether the conditions act mainly by their effect on the pasturage or directly on the bees. Herein lies the answer, it seems to me, to the contention that as bees in tropical climates do not hibernate, there is no reason why they should do so in these islands. Where the conditions are such that bees are able to fly freely, there is pasturage for them. It certainly appears to me that it is more in accord with reason to suppose that there should either be full activity or complete repose. It is beyond question, apart from the simple yet striking experiment of Nutt, that bees thrive better in sharp winters than in mild ones. Does cold really kill healthy bees in a state of hibernation, or can the suspension of activity last practically indefinitely? The fact that bumblebees were first successfully exported to the antipodes in refrigerating chambers seems to show that it can. If so, so long as bees remain with the cluster, they will come round again in the normal course of the season.

Even supposing a definite beneficial result can be shown to accrue from artificial heating, there is another side of the question which is very much more important than at first sight appears. As things are at present, the great advantage which bee-keeping has, particularly for the man who has numerous activities, is that from November to March, having done his work well during the preceding months, he can leave his bees entirely alone and devote his attention elsewhere. Anything in the nature of an incubating arrangement would alter this and make the bee-keeper an all-the-year-round man without any reasonable prospect of proportionately greater reward, for I feel convinced that any additional surplus which might result from the saving of a colony here and there would be expended merely on the extra consumption of food during the winter. Beyond that, there would be the cost of applying heat. I do not understand, of course, how the heat is to be applied, but if to hives in the open, it will cost as much per hive to keep the temperature, say, at 50 as it does to run a brooder at 80 in the milder weather of April and May. If we put this at a minimum of 3d. per week, we have a sum of 5s. to find. What are we to get in return for this?—HERBERT MACE.

Carmarthenshire Bee-Keepers' Association.

ANNUAL GENERAL MEETING.

The first annual general meeting of the above Association was held at the Shire Hall, Carmarthen, on Saturday, May 24, at 3 p.m., Hugh Stephens, Esq., Taluona, Ferryside, presiding, when the annual report and balance-sheet was presented.

The meeting was well attended, and proved a very interesting one by the keen discussion which took place.

The balance-sheet was accepted. It showed a credit balance of £9 19s. 7d., notwithstanding the expenditure on propaganda work and the lack of financial assistance from the County Council. Why this body should not assist the Association, as is done in other counties, seemed a mystery, it having come to the knowledge of the Association that a sum allocated had never reached either the secretary or treasurer, though repeated requests were made for it. It was eventually decided to form a sub-committee, to meet at Llandilo on May 30, to deal with the matter and submit a scheme to the County Agricultural Committee.

The meeting regretted to hear from the chairman that he intended leaving the dis-

trict, and was compelled therefore to resign his position, but hoped the good work in which he was interested would still go on, as he felt it was an asset to the county.

Mr. H. Samways regretted to hear the chairman's statement, thanked him for the useful work he had done and the interest he had in the Association. He was a bee-keeper, and knew the need of an association of this kind.

On the proposition of Mr. J. W. Lewis, seconded by Mr. D. Johns, B.Sc., and unanimously carried, Mr. R. B. Elliot Portiscliffe, Ferryside, was elected chairman for the ensuing year. The remaining officers were re-elected.

Quite a number of members showed a keen desire for an examination on bee-keeping to be held in the county, and the secretary was instructed to communicate with the B.B.K.A. and if possible to arrange to hold such an examination; also all candidates desirous of entering to send in their names to the secretary.

As the Government re-stocking scheme had been rejected by the Association owing to the strong dislike for the Dutch bee as a honey gatherer, and other reasons, it was felt a scheme should be adopted whereby the losses in the county could be replenished from home stocks. It was decided to discuss this matter at a later date and to have same going in full swing for next year.

Quite a number of new members were enrolled.—A. PRESTON, Hon. Sec.

South Staffordshire & District Bee-Keepers' Association.

A meeting of the above association was held on Saturday, May 24, in the apiary of Mr. E. H. Hipkins, Castle Hill Farm, Dudley.

Mr. Joseph Price, the Stafford County Council expert, assisted by Mr. A. Cheshire, examined the bees. One stock had been split up the previous week, and pure Italian queens had been successfully introduced.

Tea was provided by Mr. Hipkins, and on his suggestion a collection was made, the proceeds, viz., £3 15s., to be used for starting a disabled soldier in bee-keeping.

Mr. Hipkins thanked the members for their generous support of his scheme.

Mr. Price moved a vote of thanks to Mr. Hipkins for his kindness in once again inviting them to his apiary. He also notified the members present of the recent loss he had suffered from the death of his wife, and moved a vote of sympathy to him and family in their sad bereavement. This was appropriately seconded by Mr. Middleton.

Mr. Hipkins thanked the members for their kind expressions of sympathy to him and family.

After tea the members dispersed in the Castle grounds. Thus terminated a very enjoyable afternoon.—*Communicated.*

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Re Bee Diseases:

[9919] May I suggest what I have heard about this matter which may interest your readers. Two workmen down in Somerset, who had come from a village somewhere near Wales, were both bee-keepers, and used to keep the village well stocked with honey. A year or so back the farmer near by got the idea of spraying two fields of potatoes just in bloom. After he had done this these men found their bees returning in a dying state, unable to walk. "Bee disease," said one. "No, poison," said the other, and they were certain it was the poison on the potatoes. They asked the farmer for compensation, but got none. I won't state what happened. The farmer, I hear, is unable to plant these fields for years.

Regarding the facts, I quite believe a great many bees are killed by this copper, and it is quite a farce that spraying does any good. Ordinary water with lime that does not fizz up and get hard, and violently sprayed, keeps blight away. I use it for my roses with great success.

I wonder if people have noticed this idea. I think it a very probable cause of bees dying.—CYRIL TREDCROFT.

[So far there is no evidence that bees are injured by potato spray.—EDS.]

Queens as Germ-Carriers.

[9920] Is it possible that the queen is the carrier of the "Isle of Wight" disease germ? This season I have had two stocks that were late swarms last year show signs of crawling, and in each case the parent stocks also crawled at the same time. Now I take it that the only bee left alive now of the original swarms is the queen. These are by no means the

only cases I have come across of a similar character.

Also I should be interested to know if it has been found out how long the germ lives after the bees are dead. I have found no bad effects from putting bees on to comb full of dead bees, brood, etc., on which bees have died of "Isle of Wight" disease three months before.—JOHN GRAY, Benhall, Saxmundham.

Commercial Wax Extraeting.

[9921] The suggestion formulated by a correspondent in the B.B.J. of May 29 (9917), and approved by yourselves in an editorial footnote, will, I feel sure, evoke a chorus of approval from all bee-keepers who have endeavoured to extract wax from old combs.

Even after requisitioning the bulk of one's domestic utensils, the average equipment does not permit of the simultaneous application of pressure and heat, which is a necessary combination for effectual extraction.

Let us hope some enterprising factory may inaugurate a scheme which will prove mutually profitable.

This question of wax extraction, coupled with the view recently put forward that undigested wax might be a contributory factor in promoting loss of stamina in the bee, brings me to another point, which, with apologies for the fatal tendency to theorise which I share with most bee-beepers, I will put in the form of a question: Does the sterilisation of wax at the factory involve the distillation and loss of the more volatile constituents and leave a residue which is not healthy for bees?

An interview with anyone versed in cookery will elicit the information that fats used for frying steadily deteriorate, and while dripping freshly rendered is as wholesome as butter, it would require considerable gastric courage to eat the frying fat of the kitchen after a fortnight's wear and tear.

I have rendered cappings and samples of foundation, and other samples, both home produced and purchased, in each case taking care that the wax shall not be heated much above its melting point, and I find extreme variation in the resulting cakes. Should such deterioration in wax, as I have suggested, exist, it might account for the affection for the skep which lately has been evinced in your columns as being advantageous in enforcing a large volume of wax production by the bees.

Is it the quality of the wax utilised by the bees, and not the quantity produced, which is desirable? And, if so, can our foundation factories "keep going" on wax once rendered, and not purchased in the open market from world-wide and unknown sources?—E. G. TREMLETT.

[The home production of wax is not nearly large enough to provide the quantity of foundation needed.—EDS.]

A Bee-Keeper's Appeal.

9922] May I make an appeal on behalf of myself, through the columns of the B.B.J. and RECORD, to the fraternity of bee-keepers to help me out of the position I am placed in through calamity. I have just been released after two years' service, mostly all in France, and came home intent on restarting my business and recovering my trade, which had been in abeyance for the two years. But within a fortnight of my return a fire broke out (on Easter Sunday), and despite all the efforts of the fire brigade and friends my whole stores were burnt out and all my stock destroyed, together with my cycles, garden tools, and all my hives, which had been stored there in my absence. My loss is only covered by insurance to the extent of one-fourth, consequent upon the increased value of stock. This loss will, I fear, unless some help is forthcoming, compel me to go away from here, which I don't want to do, as I have to support my aged mother, and a loss of from £250 to £300 cannot be easily cleared off.

Any who have been placed in a similar position will understand my position better than I can describe it myself.—R. LITMAN.

[If any of our readers will help Mr. Litman, we shall be pleased to accept any donations on his behalf, acknowledge them in our columns, and forward them on to him. Mr. Litman is well known in the district as a bee-keeper, and is well worthy of any help that can be given him in his misfortune.—EDS.]

The Predisposing Cause.

[9923] Mr. Cobb's letter in your issue of May 1 raises the interesting problem: "What is the most frequent cause of that low vitality which predisposes bees to the attacks of 'Isle of Wight' disease?" Mr. Cobb would apparently suggest overworked queens. I have another theory to offer, and will illustrate it from personal experience.

I started a small apiary about 1908 with two swarms. The following spring one stock was queenless, so I united the two. My apiary was therefore dependent upon a single queen. My stock went on increasing year by year, but no fresh blood was introduced, and then in 1913, when I had five good stocks, beside several nuclei and swarms, and honey was being stored abundantly, the dreaded "Isle of Wight"

disease suddenly appeared, and all the remedies I tried were of no avail. I restarted last year, and my one stock is now going strong. I hope for increase, as well as honey, but I shall not repeat what I believe to have been the great mistake I made in my previous venture. I am expecting one of Mr. Simmin's queens in the course of the season. Whether the over-working of queens produces low stamina I must leave for others to decide—though, personally, I very much doubt it. I feel quite sure that in-breeding has much to answer for.—H. A. F.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"CANUTE" (Cheshire).—*Putting queen cells in nuclei.*—When making nuclei from a colony that has started queen cells, a comb containing a queen cell should be given to each nuclei at the time they are made. There is no need to wait at all, even if the queen cells are taken from other hives. Read the chapter on "Nucleus Hives," page 132, of "Guide Book." You can leave the old queen on the old stand with a comb of food, and as many frames of foundation as the returning field bees will cover.

"EBOR" (Dorset).—*Bees balling queen.*—We cannot say why the bees balled the queen after she had been two days and nights in the hive. Are you certain it was the same queen? It is possible you overlooked a queen cell, or a virgin queen.

H. CARRUTHERS (Norfolk).—*Placing hives in orchard with poultry.*—It is not wise to allow ducks and chickens to be able to run about among the hives. There is almost sure to be trouble for the poultry sooner or later.

"SALOP" (Ellesmere).—*Price of honey.*—We have had a number of inquiries on this subject, but there is little new honey on the market at present, so that a rate has not yet been fixed. We should say that fairly high prices will rule for a little while, say, 2s., or possibly more, for run honey, and from 2s. 6d. to 3s. 6d. for sections. It would be a great help to other beekeepers if those who have sold honey will let us know the prices ruling in their locality.

"ABERDEEN" (Scotland).—*Sulphur for fumigating hives.*—It is better to scorch with a painter's blow lamp, or to wash with "Bacterol," "Izal," or "Yadil."

"ELM LODGE" (London, W.).—*Bees killing drones.*—It is very unusual for bees to kill drones at this season and with such good weather. Have you seen the workers attacking them?

"FOUL BROOD" (Co. Cork).—Your best plan will be to follow the instructions given in the "Guide Book," and make an artificial swarm of each colony of bees. Keep them confined to a box or skep in a cool, dark place for 48 hours, then rehive in clean disinfected hives, on new frames and foundation, and feed with syrup medicated with Naphthol Beta. Keep the hives supplied with Apicure and Naphthaline.

J. B. (Cork).—*Swarm returning to parent hive.*—The old queen did not leave the hive with the swarm. She is probably unable to fly.

"KNOWLEDGE" (Dundee).—We are sorry we cannot give you the information you seek. So far as we can ascertain, the Scottish Bee-keepers' Association do not follow the practice of the British Bee-keepers' Association in publishing a report and balance-sheet with a list of members, and also the names of the affiliated associations, together with the name and address of the secretary. Probably if you write the Secretary, Mr. H. Crombie, Spoutwells, Dunkeld, you may be able to obtain the information you desire.

E. TURNER (London, N.) and J. WILLIAMSON (Newfield).—The bees are a species of Andrena.

H. G. YOUNG (Alton).—The insect is not a bee at all, but what is commonly known as a Drone Fly (*Eristalis tenax*).

Honey Sample.

W. F. LEDGER (Lee).—It is vile stuff. We should not care to feed bees on it.

Suspected Disease.

E. S. L. (Kingswood), "NOVICE" (Foxfield), J. B. (Letchworth).—The bees were affected with "I.O.W." disease.

F. V. HERON (Hants).—The bees are natives, and we do not find any disease.

S. B. (Horsham).—The bees appear to be inveterate robbers.

T. KANE (Darlington).—So far as we can tell the bees are not diseased.

Weather Report.

WESTBOURNE, May, 1919.

Rainfall, ·49 in.	Frosty nights, 0.
Heaviest fall, ·26 in. on 9th.	Mean maximum, 65·1.
Rain fell on 7 days.	Mean minimum, 47·3.
Below average, 1·55in.	Mean temperature, 56·2.
Maximum temperature, 74 on 14th and 30th.	Above average, 3·9
Minimum temperature, 36 on 3rd.	Maximum barometer, 30·313 on 27th.
Minimum on grass, 31 on 3rd.	Minimum barometer, 29·556 on 2nd.

L. B. BIRKETT.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 11 and 12, at Truro.—Royal Cornwall Show. Five Open Classes for Honey of any year. Schedules from Miss Alac Buck, Bosvigo, Truro. **Entries close June 4.**

June 24 to June 28, at Cardiff.—Royal Agricultural Society's Show, Bee and Honey Section, under the direction of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from The Secretary, 23, Bedford Street, Strand, W.C.2. **Entries close Monday, May 26; extended to June 5.**

July 23, Wyke and Normandy Horticultural Society Flower Show.—Open Classes for Section and Run Honey. Section honey prizes, 5s., 3s., 2s.; run honey (1919), 3 1-lb. glass jars, prizes, 5s., 3s., 2s. Entrance fee, 6d.—Hon. Sec., H. S. Mumford, Heatherside, Normandy, near Guildford.

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under **the** *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

PRIVATE ADVERTISEMENTS.

20 RACKS drawn-out Shallow Frames. What offers, or would exchange Italian bees.—WHITE, Penny Hill, Holbeach, Lincs. r.1

THREE good Hives on frames for Sale; also Spare Sections, etc.—Apply, 8, St. Mary's Grove, Barnes, S.W.13. r.2

FOR SALE, several strong, healthy Stocks of Hybrid Italian Bees, on 8 and 10 frames, 1918 Queens, £4 10s. each.—HOBBS, Camlot, Barnet, Herts. r.3

FOR SALE, two excellent 1918 Queens, 10s. each.—MR. LAMB, 7, Redbourne Avenue, Finchley, N.3. r.4

TWO Stocks Italian Hybrids for Sale; guaranteed healthy; 10 frames each. Offers.—WALDEN, "Woodville," Stourton Caundle, Blandford. r.5

FOR SALE, good Bee Hive.—MISS BIRKBECK, Kirkby Stephen. r.6

FOR SALE, surplus appliances, three well painted Hives, zinc roofed, £1 each; four new Skeps, 3s. each; two Feeders, 4s.; Foundation, 3s. lb.; Dixon's Skep Section Rack, 5s.; built-out Frames, 3s. 6d. dozen; Candy, Embedder, etc. List for stamp.—TOWNSEND, Brougham Street School, Skipton. r.7

ONE CWT. White Cambridgeshire Honey, this season's; extra quality.—R. WHITTING, Manea, March. r.8

SWARMS, 35s. each. Cash with order. Box to be returned.—BUTLER, West Road, Histon, Cambs. r.9

FOUR Second-hand W.B.C. Hives, without inner parts, 16s. each. Inquiries, stamped envelope.—FRASER, 13, Manse Road, Markinch. r.10

EXCHANGE, 6 h.p. Motor Cycle and Sidecar, splendid condition, for five hives of bees and £30 cash, or sell.—GREEN, New Dale, Wellington, Salop. r.11

BEE EXPERT seeks engagement; willing to take charge of poultry and work in garden if necessary.—Box 26, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.12

FIVE Frames of Brood and Bees, headed by 1918 Queen, vigorous strain, good combs, delivery in 14 days, 70s.—H. WILCOX, 46, Lyndon Road, Olton, Warwickshire. r.13

READY NOW.—Five-frame Stock Hybrids, strong in brood, bees and stores, guaranteed healthy, £3 5s.; another, six frames, £4.—Box 27, B.B.J. Office, 23, Bedford Street, W.C.2. r.15

WANTED, immediately, 1918 Queens, good strain; Italian preferred.—ROBERTS, Midland Bank, Llanelly. r.14

WANTED, Cheshire's "Bees and Bee-keeping," two vols. Price to Box 28, B.B.J. Office, 23, Bedford Street, W.C.2. r.16

FOR SALE, 19 Taylor's Single-walled Hives, covered with rubberine, 8 extra lifts; 1 new Honey Extractor, unused; 1 Wax Extractor; 28 Section Racks, fully filled; 15 Shallow Frame Boxes; 1 Swarm Box; 18 Taylor's Patent Excluders, 2 ordinary ditto; 1 Travelling Box, 10 frames, 1 ditto, 6 frames; 7 Winter Covering Boards; 2 Rymer Boards; 6 Porter Escapes, 1 Taylor's Bacterol Feeder; 2 large Rapid Feeders; 23 small Rapid Feeders; 1 Uncapping Tray; 2 Uncapping Knives, 6 new lever top Tins, hold 28 lbs. each; 2 Skeps, 1 Travelling Box for gross of sections. All the hives have been scorched and painted inside with chloride of lime and newly painted outside, and are in new condition.—Particulars and prices, Box 29, B.B.J. Office, 23, Bedford Street, W.C.2. r.17

FOR SALE, two 1918 Italian Queens, 10s. each; one Stock Bees on 8 frames, full of brood, in Taylor's hive, newly painted, £4, f.o.r.—Box 30, B.B.J. Office, 23, Bedford Street, W.C.2. r.18

FOR SALE, seven Stocks on 8 and 10 frames at 8s. 6d. per frame, carriage paid; travelling box 5s. extra, returnable. May Swarm on six new standard frames, 42s., carriage paid; travelling box 5s. extra, returnable. Six Hives from 14s. to 20s. each. Deposit.—DRAPER, 2, Yew Tree Villas, Park Gate, Swanwick, Southampton. q.118

THE Cambs. "Skyscraper" Hive, as illustrated in "Let the Bees Tell You," will be ready for delivery by clover blossom. Specifications and prices sent to anyone interested.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.124

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks Winner of three 1st prizes at three Royal Shows

SELECTED Italian Virgin Queens, Penna's strain, 3s. 6d. each, or 3s. each in lots of six upwards; strong 4-frame Nuclei, £3 3s. each. Safe arrival guaranteed; carriage paid; cash with order.—E. W. D. MADOC, Mattishall, Dereham. r.19

NUCLEI (1919 Queens), excellent brood raisers, best strains, Italian, etc., 3 frames, 50s.; 4 frames, £3; delivered. Cash orders booked.—MOORE, 31, Monmouth Road, Dorchester. r.20

QUEENS.—Fertile Dutch crossed Golden, 7s. each.—GREEN, Bee-keeper, Laindon, Essex. r.21

ITALIAN NUCLEI, with 1919 fertile Queens, for Sale. Stamp reply. FOALE, Wolverton. r.22

DUTCH BEES.—Skeps all sold. Several hundred 6-frame Stocks (British standard size frames) coming from Holland. First consignment early June.—WHYTE, Cumbernauld, Dumbartonshire, British Agent for Hans Matthes. r.23

ON OFFER.—Black and white hornless Nanny, in full profit; quiet; also September 1918 Queens of Queens, black or yellow, breeders, clipped wings, from my hygienic stocks. Immense breeders. Stamp reply. ARTHUR TROWSE, Bee Expert, Eade Road, Norwich. r.24

THREE-FRAME NUCLEI, Italians, 1919 Queens, delivery June and July, 3 gns.; box, to be returned within seven days. 10s.—EVANS, Goath Cottage, Endlebury Road, Chingford. r.25

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . In a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

1919 IMPORTED Golden Italian Fertile Queens.—Orders booked and executed in rotation. Regular supplies throughout the season Price 14s. 6d.; specially selected, 17s. 6d. Cash terms. Stamp for reply.—GOODARE, New Cross, Wednesfield. q.12

ITALIAN NUCLEI, three frame, with young fertile Queens, 50s.; four frames, £3; Fertile Queens, 9s. 6d. each; Virgins, 4s. 6d. All from Simmins' and Penna's strains.—W. J. WATTS, Conway Cottage, Newtown, Upper Parkstone, Dorset. q.92

WOOD for Hive Making.—1 in. planed boards, 22 in. by 15 in., 10d.; 22 in. by 8 in., 6d.; ⅞ in., unplaned, 27 in. by 4 in., 3d. each; all second-hand; tongued and grooved joints.—SMITH, 72 Norton Street, Hockley, Birmingham. q.94

ITALIAN Virgin Queens, bred from Penna's and Simmins' strains, 5s. 6d.; home-mated Queens, mid-June onwards, 10s. Safe arrival guaranteed.—MISS PALING, Golden Square, Henfield, Sussex. q.120

STRONG Stocks on eight wired standard frames, brood and stores, 1918 Queen, £4 10s.; case 7s. 6d., returnable; 3-frame Nuclei, 1919 fertile Queens, 37s. 6d.; case 5s., returnable. Orders booked for Fertile and Virgin Queens.—W. WOODS, Normandy, near Guildford. q.121

QUEEN Rearing and rapid increase Outfit, with British and American instructions, 15s. 6d. Swarming impossible with our right up-to-date appliances.—MEADOWS, Syston, Leicester. q.122

STRICTLY BUSINESS.—A copy of "Intensive Bee-keeping" sent free with a 1s. order for Flavine. A Japanned Sprayer 5s., post free.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.123

"I.O.W." DISEASE.

No Bee-keeper should be without Allsopp's B'kure Powder to *prevent* and cure "I.O.W." disease. One of many testimonials :—

"I have used your B'kure Powder for the last two seasons with great success."—T. C. TRIBBLE, Moreton House Gardens, near Dorchester.

Price 2s. 6d. per tin, postage 6d. Full directions on tins.

J. C. ALLSOPP,
87, GERTRUDE ROAD, WEST BRIDGFORD, NOTTINGHAM.

THE Governors of the West of Scotland Agricultural College invite applications for the post of ASSISTANT LECTURER in Bee-keeping.

The salary is £100 per annum, plus war bonus, which is at present 23s. per week. Applications, stating age, scientific training, if any, and practical experience, must be lodged with the undersigned by June 21.

JOHN CUTHBERTSON,
Secretary.
6, Blythswood Square, Glasgow,
May 24, 1919.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE. 28a, Moy Road, Cardiff.

LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford Road, Luton, Beds.

A Bee-Keeper's Appeal.

In response to this letter (9922) in the JOURNAL for June 5, we have received the following amount :—

Mr. T. Baker £10 0 0

We shall be very pleased to receive further donations.

British Bee-Keepers' Association.

DONATIONS FOR THE ROYAL SHOW.

The Council of the British Bee-keepers' Association are anxious to take their usual part at the Royal Show to be held at Cardiff this year so that their unbroken record of representation at this show may not be spoilt. In order to defray the expenses in connection therewith the Council ask that all bee-keepers assist in this work by giving donations, which should be sent as early as possible to the Secretary, 23, Bedford Street, Strand, London, W.C.2. No sum will be too small—or too large.

	£	s.	d.
Amount previously acknowledged	£24	12	11
Adminson, Ltd.	1	1	0
Lieut. C. Tredcroft ...	1	0	0
Mr. J. Rowlands	0	3	6
Mr. S. Livesey	0	2	6
Total	£26	19	11

A Dorset Yarn.

Bees began swarming on Sunday as the church bells rang for morning service. They were from a stock of Italians on eleven combs. They had already filled two racks of sections. I was able to catch one queen as she rested on my bare arm. They settled in three lots, and were shaken into skeps and placed into hives on bars. The largest lot took a flight round and came back to the stock again, which was a slice of good luck, as it keeps up the population for filling the sections. These Italians are fine for big swarms. There was one a week ago that looked to have quite a half-bushel of bees. The skep could not hold more than half of them, so carried off part of them and placed them over bars, and left the other lot to go back to the parent hive. Why should they raise so many queens? There was plenty of room for them with two new racks of sections to keep storing surplus. In the evening of Sunday there was another queen on the top of the section covering. She must have come up the sides of the case in the hurry of swarming; yet she might have been driven out by the queen that was still in hive. These had not been disturbed in the brood chamber since early May, so they had a month in which to rear the queens. They were all removed but one before the sections were placed on top. The workers must have resented me removing the queen cells, and started more at once. There is a lot to learn yet of queen-rearing. My friend Mr. Batson gave me an illustration of his Italians in raising queens, by isolating one frame of comb, with plenty of new-laid eggs and brood, beyond the others with division board, with a beeway over top of bars. The queen not going over the outside combs, the bees built 17 queen cells and reared them. I have not heard of anything like it. It may be of service to others in re-queening from best stocks, as the queen could be removed and a new one introduced without having to send to Italy for others.

While writing of Mr. Batson, I may say I went to see the Dutch stocks that belong to the Dorset County Council re-stocking scheme. He has them in an ideal spot, close to the Wimborne Cemetery, with huge chestnut and lime trees as a background. New standard-frame hives, at equal distances apart, all looked like colonising the whole of Dorset with bees again. The Government scheme is to re-queen with Italians, but these Dutch bees won't have them, even though he has her between the combs three days and the Dutch queen removed. They all set on her at once when released. They would soon ball her if left to their rough ways. Even when she came outside the nuclei box their rough work was just the same. He had to catch her again and try her another day in the cage between the bars. All this gives him a lot of bother, and only a man who has the bee-fever strong would ever keep on trying. I advised him to cut out some queen cells from his own Italians (which are a very fine lot), and place them between the bars before they are quite ready to come out of cells. They would probably take to them better after hearing them calling in the cells before they finally come out of them. To me it is strange that these Dutch bees should not take to the foreign queens. They are a very gentle lot. He lit his pipe and took out the combs without a veil; the careful handling of a veteran bee-keeper proved the mastery he had over them. He has taken on a big job and is doing it well.

After leaving Mr. Batson I called on

Squire Tomlinson. He is building up a fine lot of young stocks on new frames of comb by taking out two combs of brood. He released a queen to one of these new lots while I was there (she had been in between the combs three days). She was a very fine one with a very large abdomen—three times the size of the imported Italians at the East Dorset apiary. As soon as he pulled the round prison-cell off her she moved down the frame of brood. All bees opened out a way for her, and when he had the comb out for inspection it was just the same. She moved over the sealed brood looking for empty cells. She had been confined some days, and was eager to get to the business of laying eggs as soon as possible. But the way opened out for her was always the same, even though these had already built a queen cell round a worker egg, which was already developing. Yet they took to her eagerly, while the Dutch lot would not take to the Italian queen at all. The older I get I seem to see the truth of Shakespeare's writings—there are stranger things in heaven and earth than were ever dreamt of in man's philosophy.

On Sunday evening, about eight o'clock, a neighbour came hurrying up to the farm. He was very short of breath after climbing the hill. "Just about a fine swarm of bees down in the field; nearly stepped on them; all on the ground. I'll show 'ee, measter." I took the biggest skep I had. It was no trouble. Had only to place the skep on to one side and use two forked sticks to keep up the front, as the bees covered nearly a yard of ground on a few primrose leaves. Being late in the day, they all soon hurried under cover. This swarm had been about all day. They were seen in the morning a mile away from the farm. Probably an old queen that could not fly strong, and had to keep resting. I carried all the bees the skep would hold back to the farm and placed them in a permanent home. Tuesday afternoon an old man came up and said, "A swarm of bees in Farmer Austin's field." It was what was left of Sunday's swarm, and probably more had gone back to them; but there was no queen with them. I moved them over with my finger under the leaves of primroses. When they had moved into the skep I found that they had started building comb on the primrose leaves, but without a queen one would not have expected to see them start building cells. This proves that these must have come a long way, or they would have returned to their old home. In the wild, mad delirium of swarming they had forgotten their way back. How different to a horse! I drove 19 miles to lecture on Monday. The horse knew the whole way back, though it had never been there before. We stayed the night at Chewton Glen, six miles from Christchurch. Mr. Weaver's bees had gone under in the winter. Could not see the hives stand empty, so sent him on a swarm a day or two after. I have heard of bees which had started comb in the open before, but had not seen it. I saw a pretty picture of bees building comb upwards, where a neighbour gave a piece of last season's honey in comb on a small dish to a skep with a hole in the top. They cleaned out the cells of honey and then restarted filling, and building upwards, till the dish was full, and then they spread over the top of skep. Bees are wonderful builders. It is a simple way of getting a dish of honey for the table with an original design. He has his skeps in boxes, with a close-fitting cover. He had not at the time added his section racks.

The bees are bringing in nectar fast, but the source from which it comes is not apparent just now. The raspberries have some of them, but the horse-chestnut and hawthorn are finished; the holly has but a few flowers left. It must be largely charlock, as that is very abundant in some cornfields. The white clover is just opening; the crimson clover has not a bee on it, as it has only a few flowers on the top; a great deal of it is cut, as are fields of rye grass and red clover. The Limnanthes are all seed, but soon it will be the wild blackberries for them to carry on the stream of nectar to the hives. It looks like a short season of surplus this year with so much dry weather.—J. J. KETTLE.

Bee Notes and Notions.

After wiring a couple of hundred standard frames, it occurred to me, could not a small roller, with worker cell impression engraved upon it, be made and purchased? Then could not a sheet of stiff and thin wood veneer be coated with pure beeswax, made from our own capping of comb, the roller passed over it to give the necessary impressions; then the result would be a flat, stiff, and easily-adjusted foundation that will not sag or break. A saving in wax and money, also ideal in many ways. Also, I strongly recommend a stouter and wider top bar for the standard frame than those we buy from the dealers. I make most of mine for this one reason alone.

If legislation for bees is much needed, surely someone should give the pros and cons as to the line a Bill should take. Personally, I think a little rightly directed education in bee methods and management is required all over the country. No Bill ever passed will be of use till this is done. How will any Act of Parliament

work with diseased combs in out-of-the-way places, such as trees, buildings, etc.? Also, I object to any person overhauling my bee gear, because, through sheer necessity, a few years ago, I had to find and experiment with a method to end disease, At the commencement I laid myself out for a four or five years' job. Are the fruits of one's brains, time and money to be so easily tapped by someone else? Moreover, if the would-be caller did not get the satisfaction he desired, he could do endless harm when on his rounds in a confidential manner. Now, sir, bees don't need this for their welfare, or even a warming-pan in winter. After successfully wintering nuclei that bitter winter three years ago proves this.

Disease develops in stocks when eleven out of twelve persons don't know it. Of the various causes I have heard the following:—The gas waves from Flanders; petrol and dust from motors; the dews from the ground; and wasps. This last is more sensible. I firmly believe bee-keeping, to be successful, is like music—it's a gift of one's nature. Just anyone to take it up ofttimes spells disaster.—ARTHUR TROWSE, Eade Road, Norwich.

A Misfortune to an Enthusiastic Bee-Keeper.

On returning home from business on Monday, May 26, Mr. A. Cheshire, of Earl Street, Coseley, Bilston, assistant secretary of the South Staffs and District Bee-keepers' Association, decided to fumigate some super-combs, preparatory to placing them on his bees. With this intention he arranged his fumigator boxes in a spare bedroom, which is also used for the storage of all his bee appliances and curios. Half an hour afterwards, while talking to some friends in the garden, he was surprised to hear a bang, and on looking towards the house saw smoke issuing from between the slates.

On arrival at the room everything was ablaze, and very few articles could be saved. In fact, the room became a veritable furnace. Help being at hand, it was decided to close the room and try to save the other portion of the house. About this time, probably through an escape of gas, an explosion occurred, which blew the roof off. Mr. Cheshire, in jumping through a bedroom window, has injured his back and leg, but escaped with slight burns on the face. Another helper, however, was not so fortunate, and was badly burnt on the face and hands.

On arrival of the fire brigade the flames were got under control, but not before considerable damage had been done. All the roof and upper storeys, consisting of four bedrooms, were burnt out, with their contents. Among the effects that were destroyed in the room where the fire started were 40 boxes of shallow combs, 60 lbs. or more of exhibition honey, and beeswax, show cases, prize cards, and expert's certificate, foundation, frames, lifts, excluders, extractor and ripener, and a most valuable collection of bee appliances and curios, all burnt to ashes. The fire was so fierce that two gross of honey bottles were found in a molten mass among the *débris*.

This happening at the opening of the honey season is undoubtedly a great disappointment to Mr. and Mrs. Cheshire, who are both known to be two most enthusiastic bee-keepers and exhibitors, and I venture to think that they have the sympathy of all your readers that know them, and also those that do not.

The damage, at a low figure, is estimated at over £300, and unfortunately was not covered by insurance.—J. PRICE

Notes from South Wales.

Since my last notes in the B.B.J., the bees around this part have made rapid strides, and they are fast filling up the supers. There is a wealth of apple blossom all around, and also sycamore, which they visit in preference to anything else. I happened to pass under a sycamore tree just after we had a shower of rain: the hum was just like a swarm up in the tree, and not only hive bees, but all kinds of wild bees—they seem to be a proper feast for them. The hawthorn is just starting to bloom, and there seems to be plenty of it this year; the bees should do well from it if they are given fine weather. I think the honey from it is splendid, and when I was extracting some of it one year it smelled just like almonds, and was a beautiful colour, quite golden.

I have heard of a few swarms coming off, and I arrived at a village one evening just in time to see the rear guard of one marching in, and by the roar I should say that it was a very heavy swarm, and if managed right should do well. The parent stock came there "on its own," and took possession of the hive; the bees before them had died out. I believe, from "Isle of Wight" disease, but these have kept healthy since they have been there, and they are on the same combs that the others died on.

The queen that I mentioned in my last notes, as coming from a diseased stock, is doing well: all the bees can fly and no crawlers to be seen anywhere; the stock has been supered, and should do well. I think that will go a long way to prove

that the queen is not affected, and that it must be something wrong with the stores. I may mention that where she was with the diseased stock they had all honey for stores, and plenty of it, but when she was moved to the other hive she had to have candy, and some syrup that was fed to the stock last autumn. I have known a good many cases where bees have lived that have been sugar-fed, whereas stocks that had plenty of natural food have died out from "Isle of Wight" disease, or at least that is what it has been branded as. There is another case that I should like to mention to the readers of the B.B.J., and that is, that I have split up four stocks of bees for different people, I have shifted the parent stock to a new stand, and left the queen and a frame of brood in its place, and I found that the alighting boards of three that were rendered queenless were covered with excreta, looking just as if they were suffering from dysentery, but only lasting a day or so, not any bees crawling about, and they did not look anything the worse for it, but the parent stocks did not show any signs of it at all. It appears strange to me why one half should be attacked, and the other half not; whether it was the excitement of losing the queen caused it I do not know, perhaps some other readers have noticed the same thing.

We hope to see some of our brother bee-keepers at the show at Cardiff, and that everyone who can will enter, and make the honey department a thorough success. We are looking forward to it, and we are all expecting to win, and if some of our brother bee-keepers that live in the Vale of the Towey bring some of their honey to the show bench, it will take some beating, for I think that the honey that is gathered in that district is the finest in Wales. — E. Boobier, Valley Apiary, Bishopston, South Wales.

Dominion of Canada Department of Agriculture.

Returns from Bees at the Dominion Experimental Farms.

Bees are now kept at sixteen of the Experimental Farms as compared with only five in 1913. During the past few years the number of colonies at some of the farms have increased, while at others they have decreased, chiefly through loss in winter. Methods of preventing much of this loss were worked out.

Taking a period of six years (1913-1918 inclusive), the highest returns have been obtained at the Central Experimental Farm at Ottawa, where the average annual yield of honey per colony, spring count, for the six years, amounted to 121.6 lbs. The next highest yield was at Nappan, N.S., where the average yield was 102.2 lbs. for a period of five years (1913-1917); Lethbridge, Alta., gave 76.2 lbs. (1913-1918); Invermere, B.C., gave 70.5 lbs. (1914-1918); Ste. Anne de la Pocatiere, Que., 59.4 lbs. (1913-1917); Cap Rouge, Que., 58.7 lbs. (1913-1918); Lacombe, Alta., 52.6 lbs. (1915-1918); Fredericton, N.B., 50.9 lbs. (1914-1918); Kentville, N.S., 47.4 lbs. (1914-1918).

The above gives only the amount of surplus honey obtained; to this must be added the net increase made in bees during the same period. The average value of the honey, the price of which varied at the different farms, and of the increase of bees per colony during the same number of years is as follows:—Ottawa, $17.27, 1913-1918; Lethbridge, Alta., $16.49, 1914-1918; Nappan, N.S., $13.41, 1913-1917; Invermere, B.C., $13.26, 1914-1918; Lacombe, Alta., $12.79, 1915-1918; Indian Head, Sask., $11.83, 1915-1917, Ste. Anne de la Pocatiere, Que., $10.42; 1913-1917; Fredericton, N.B., $9.91;, 1914-1918; Summerland, B.C., $9.38; 1916-17; Cap Rouge, Que., $8.79, 1913-1918; Kentville, N.S., $8.11, 1914-918.

White and alsike clover were the principal sources of honey at all the farms except Lethbridge, where the honey came from alfalfa. All the honey produced was of good quality, that from Ste. Anne de la Pocatiere being exceptionally fine.

Management was found to be an important factor in honey production. The men in charge of the apiaries who had over two years' experience did much better than those with less. The bees at Ottawa have been under expert care all the time, and if those at Nappan, Lethbridge, and a few of the other places had received similar care, equal, if not larger, returns might have been obtained. It was also noticed that horticulture and bee-keeping make a better combination than poultry and bees, as the men engaged in horticulture take a keener interest in bees. Many horticulturists and small farmers find bee-keeping both a congenial and profitable side line.

There are few places in Canada where bee-keeping cannot be carried on profitably. There are also many farming areas, excellent for bee-keeping, where it is largely neglected. For example, Prince Edward Island, certain marsh lands in Nova Scotia, the St. John River Valley, N.B., the Lake St. John district, Que., and many places in Ontario and Manitoba. *Experimental Farms Note.*

Cardigan and District Bee-Keepers' Association.

The first general meeting of the Cardigan and District B.K.A. was held on May 21 at Cardigan, under the chairmanship of the President, Lady Jenkins, of Kilbronnan. The reports of the secretary and treasurer were received and approved. Pleasure was expressed at the progress so far made by the Association, and various suggestions made with a view of extending the influence and enhancing the value of the Association. The business meeting was followed by a very interesting lecture on bee-keepipg by the Rev. Henry Morgan, B.A. (lately expert to the Glamorganshire B.K.A.).

Norfolk Bee-Keepers' Association.

A meeting of the above Association was held in Norwich on Saturday, June 7, 1919, when Mr. W. Herrod-Hempsall delivered, before an enthusiastic audience, a most practical and instructive lecture on "Bees and Bee-keeping." The vice-president, Mr. J. A. Christie, Esq., C.C., was in the chair, and after his opening remarks, in which he reminded the audience of the great future which lay in store for bee-keepers, he introduced Mr. Herrod-Hempsall. After the lecture the speaker invited questions, and many bee-keepers present took advantage of the opportunity to put their "little difficulties" before Mr. Herrod-Hempsall.

At the conclusion of the lecture Mr. Herrod-Hempsall was warmly thanked for his services, on the proposition of Mr. Cole, of Sprowston Lodge. Mr. Herrod-Hempsall briefly returned thanks.

The meeting then settled down to its business, and after discussion it was agreed that the Association should become a "live" one and have a representative County Committee. It was felt that as the county was so large in area, district associations, working under the central Association, should be formed. The secretary was instructed to draw out a scheme for that purpose.

The Secretary intimated to the meeting that the annual show would be held at Melton Constable Park in August. Silver and bronze medals would be awarded to the competitors.

New members were enrolled at the conclusion of the meeting.

It is hoped to secure the services of Mr. Herrod-Hempsall at some future meeting, the date of which will be announced later. —J. A. B.

Combs from Other Hives.

INFERNAL MACHINE OF THE HONEY BEE: MOST CUNNING DEVICE.

Man, with all his ingenuity, has not yet devised a machine or a thrower of poison gas that will continue to act after the soldier is dead, but Nature has done something like it in the honey bee, says a *Popular Science Monthly* investigator. At one time it was supposed that the poison that accompanies the sting is formic acid. That is now doubted, although the material has an acid reaction. It is a curious fact that there are other poison glands in the bee that are alkaline.

A well-known investigator asserts that the secretion of both sets of glands must be mixed to be fully effective. The secretions enter the barbs. Here the two are mixed, later to be forced out of the channel formed by the sheath and lancets and through certain openings in the lancets. Both the channel in question and the openings were formerly supposed to be merely passages for the poison. It has been shown by *a skilful investigator that the channels in the lancets are not connected with the poison duct, and that they are smelling organs, used probably in gathering the nectar for the making of honey.* —From *Popular Science Siftings.*

[The italics are ours. Comment would be superfluous.—EDS.]

West Indian Notes.

This industry in Jamaica is threatened by a disease known as "foul brood." The disease has been introduced here from one of the neighbouring Republics, and already it has been found necessary by the Department of Agriculture to order the destruction, by burning, of hives of bees, near Kingston, to prevent the trouble from spreading. "Foul brood" is known to exist in Santo Domingo, Hayti and Cuba; but still the Government during the past year allowed consignments of honey to be brought to Kingston in schooners from the three Republics and transhipped to Europe, the only restriction being that the article should be kept on boats in the stream and not allowed to be brought alongside the wharves. What many persons feared at the time has happened—the disease has broken out here, and an industry which means much to Jamaica is in danger of being ruined. The appearance of the disease here is causing a good deal of alarm. Bee-keepers in Jamaica have made large profits within the past year or two. Honey jumped from about 2s. to 17s. per gallon; it has since declined to 10s., at which figure it bids fair to remain for some time at least. Apiaries have been, and are still being, established

in all sections of the island; but it appears that only the skill of the Department of Agriculture and the vigilance of apiarists will be the means of checking the spread of "foul brood" and the gradual wiping out of an extremely remunerative industry. The disease has wrought great havoc in the bee-keeping business in the Southern States of America.

Inquiries have been made as to the prospects of Jamaica coffee obtaining adequate shipping facilities during the present year. Such inquiries show that there is every chance of the article being sent to England through arrangements to be made by His Majesty's Government. Telegrams on the subject have passed between the Secretary of State for the Colonies and the Governor. In November, the Secretary of State cabled that the Ministry of Food was making arrangements for coffee and desired information as to stocks now ready for shipment, and an estimate of the coffee crop in 1919. The Governor replied that about 5,000 cwt. were ready for shipment, that the exports averaged about 80,000 cwt. per annum, and, further, that the quantity to be shipped in 1919 would approximate that figure. It is worthy of note that during the past year the Jamaica Imperial Association did everything in its power to get Jamaica coffee conveyed to England. Such efforts resulted in the removal of large quantities of coffee and cocoa at better prices than were ever received before.—From the *Times* Trade Supplement.

The Hearing Sense of Bees.

By A. F. Bonney.

In almost—I may as well say all—advance in knowledge, we argue from what we know to what we do not know, and this discussion regarding the sense of hearing in the bee will apply; while some argue from what they do not know to an erroneous conclusion. However, that is a common error and needs but be corrected.

Because man hears we infer that other animals do also. That the vertebrates do allows of no discussion, for they have well defined organs adapted to the purpose. In the vertebrated animals these organs are complicated in structure, having, in the higher forms of life, an external ear; a meatus or sound canal ending in a drum membrane, the tympanum; then a cavity containing three small bones called the anvil, hammer and stirrup; then there are the semi-lunar canal and the labyrinth, and finally the tube extending from the ear apparatus to the throat, the eustachian tube, and this is as essential to hearing as any of the other parts, for if it be clogged no air can pass from the ear to the throat cavity, and the hearing is impaired. In the insect family there is no connection between the mouth and the breathing apparatus, as insects breathe through small tubes called trachae on either side of their body; hence we cannot argue from what we know about man's hearing apparatus to what we do not know about the bee; and, further, we do not even know that there be any necessity that the bees hear. They have a wonderfully developed sense of smell, and, I have reason to think, as keen a sense of feeling, and I am sometimes inclined to think that, as hearing depends on vibration of the air, there would be no such thing as sound if there was no ear to hear it.

Now feeling depends on vibration, both of the air, the conducting medium on which we stand, and the vibration of the nerves of the body, and it is possible that, the bee being as sensitive to such vibrations as to odour particles in the air, feeling takes the place of hearing. However, in "Animal Life," by Lindsay, I read that Dr. Sharp, of Cambridge, has described their (the ants') "stridulating," i.e., noise-producing organs, and Mr. Lindsay alludes to the sense of hearing in ants as "a fact." Other insects make noises, and it is theorised that they are for the purpose of attracting members of the opposite sex, but what I have said above may apply here.

We know that the bees have different "voices," as the contented "homing hum," the sharp "buzz" of anger or excitement, the sound the queen makes at certain times, and as there are notes pitched so high that the human ear cannot take cognisance of them, it may be that the bees produce other sounds inaudible to us.

Just recently a new sense has been discovered in the human, through the use of the flying machines—the "motion sense" of aviators, which enables them to maintain equilibrium without the aid of vision. I once knew a man who could balance himself on the two rear legs of a chair and read aloud from a newspaper. A thousand trials failed to enable me to balance myself even ten seconds. Try it.

I have caused a shotgun to be discharged within ten feet of a hive where the bees were numerous on the alighting board, but failed to detect in them any indication that they heard the sound, while a very slight tapping with finger nail on the hive would excite them. I have yelled myself hoarse, but the bees paid no attention to me.

In our present state of knowledge I assume that it is safe to say that we do not know whether bees hear or not, and it affords an interesting field for study and observation.—*American Bee Journal.*

Mating Queens over Colonies.

Referring to the article on page 57, February number, "Mating Queens Over Colonies," I wish to say that I have had as good success mating queens over colonies as with some of the other methods. It is possible that it was due to good luck and awkwardness rather than to the method used.

As a beginner, I have produced some excellent queens by various methods, and when ready to place virgin or ripe queen-cell over a colony I paid no particular attention to putting up frames from the lower brood-chamber, but put up frames containing brood in every stage of development.

In choosing and preparing my hive for mating purposes, I select a strong colony, having one or more section supers, in which the bees have commenced to work. On top of these I place a honey-board, on top of this I place what I call a "mating bottom," which is made in the following manner:—Make a frame to fit the hive, dimensions of which are one and a quarter by seven-eighth inch. On the bottom of this frame I tack a sheet of tin, covering three-fourths of the frame; bore two or three half-inch holes in the back end of the frame, and for the entrance tack a piece of tin bent at right angles below these holes for alighting board. Over this put your brood-chamber with the brood frames and virgin or ripe queen-cell, and in due time you will find a laying queen.

I have mated two queens in the same brood-chamber in this way and would also get the frames filled with honey, which was extracted, or could have made a new colony strong enough to winter well.

I would like to mention another experiment which I have tried. The idea is not original with me, but I have never seen it in print that I remember of. I have seen the time when I wanted to graft some queen-cells and had no royal jelly. I have used a mixture of water and honey, well mixed, used the same as royal jelly, and had 87 6-10 per cent. of the cells accepted, and 85 per cent. were finished and were as well developed queens as I ever saw.

I have been in the bee business since 1918, but have done nothing but try experiments, and try to do what the other fellow has done, and more.—L. A. Shawler, in the *American Bee Journal*.

Observations made with Blind Bees

Monsieur Gaston Bonnier continues to make his interesting observations in bee life. In his last communication of April 19 to the Academy of Science at Paris he stated that foraging bees were guided in their return to the hive neither by the sense of smell nor of sight. By means of numerous experiments, M. Bonnier showed that the eye in the bee, though so wonderfully developed, is not employed to direct her in the return home. Without going further into details, it is enough to give the following particulars:—The foraging bees whose eyes had been covered with a layer of blackened collodion, and therefore rendered sightless, were equally as well able to find their hives as those that could see, and the sense of smell, which is located in the antennæ, cannot be summoned to their aid, as the bees can only appreciate scent at a limited distance; and even though the antennæ be removed, she can return from any distance to her hive.

M. Bonnier put some branches that had been dipped in syrup at a distance from the colonies, and the next day the foraging bees had discovered them and had begun to fly to and from the syrup to the hive. These bees were marked with a mixture of green powder and tallow.

Other sweetened branches were placed in a parallel direction at a distance of some six yards or so from the first branches, and were visited by field bees, but *not* by those marked green. The second lot of bees M. Bonnier marked with red. The next day the green-coloured bees continued to fly to the first lot of branches, and the red-marked bees to the second, proving that the bees were able to distinguish two directions in a very acute angle—in this case the two sides being about 200 yards in length and only six apart at the base.

M. Bonnier believes that bees have a special sense—a sense of *direction*, such as homing pigeons possess.—From the *Canadian Bee Journal*.

Egg-Laying Powers of a Queen.

A good deal is said about what a queen can do in the way of laying eggs, and it may be of interest to figure out just how many eggs she actually does average daily when she has occupied a certain number of combs. If she fills three-fourths of the available cells in a Langstroth comb, counting both sides, she will occupy 7,300 cells. If it is 21 days from the time an egg is laid until the young worker emerges from its cell, then she has laid 7,300 eggs in 21 days. Dividing 7,300 by 21 gives 347.619 as the average day's work during the 21 days. Of course she has not laid that number of eggs each day. Some days she has laid more; some days less; and there is likely to be a wide range from the minimum to the maximum.

Taking that 347.619 as a basis, and relieving the queen of the difficulty of lay-

ing less than a whole egg at a time by throwing away the fractions, we may make out a table showing just what a queen actually has averaged daily when she has filled a certain number of combs. It will be: For 1 comb, 347; for 2 combs, 695; for 3 combs, 1,043; for 4 combs, 1,390; for 5 combs, 1,738; for 6 combs, 2,086; for 7 combs, 2,433; for 8 combs, 2,781; for 9 combs, 3,128; for 10 combs, 3,476; for 11 combs, 3,824; for 12 combs, 4,172.

Dr. E. F. Phillips thinks a good queen ought to fill 10 combs. That would call for a daily stunt of 3,476 eggs, some laying. Perhaps some of us have hardly realised what a good queen ought to do. At any rate I should hardly want to call any man a slacker whose queens should average 2,000 eggs daily, keeping 6 combs filled.

Someone may say that when a queen occupies 10 combs the outside combs are not half-filled. True enough; yet these are more than balanced by inside combs more than three-fourths filled. I've seen plenty of combs that I think were nine-tenths filled. Yet I do not guarantee that "three-fourths" as anything more than a rough guess, and it will be a useful thing if someone makes accurate observations showing just what a good queen does. Then I'll gladly readjust my figures to fit the facts. I have merely shown what a queen actually does average if she fills a certain number of frames three-fourths full.—Dr. Miller, in *Gleanings*.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Re "Isle of Wight" Disease and Fresh Air.

[9924] I have a stock, that whenever I contract the entrance, out come the bees crawling on the ground, but I have tried a new plan, giving them plenty of fresh air. My supers have a round hole in the side, so I have put some fine gauze over the hole, and leave it open day and night, also, have no quilt on top super of shallow frames, but an empty super with a glass quilt, which gives plenty of air space.

Now the reason I have written the above for the Journal is so that other bee-keepers may try it. I am of the same opinion as M. T. E., the writer on page 220, B.B.J., May 29, 1919.

I may say that I have been obliged to draw out the slides and prop up 10 front entrances for the last month or five weeks. —W. J. Dale.

Are the Honey Shows Dead?

[9925] No doubt there will be great efforts made to resuscitate these, but in my opinion committees must altogether re-model their schedules and conditions, otherwise failure will be the result. Am sorry there are indications already with the Royal. In the open classes, for instance, it is not much use anyone exhibiting against those residing in renowned "good honey" districts, their chances are too small. Again, another great deterrent is often found when a prominent, and perhaps old member, continually "swipes the board" year after year; this gives new exhibitors no chance, and they (sometimes with many older ones) get permanently disappointed and simply drop out. All this, however, can no doubt, be guarded against when arranging schedules. But the greatest difficulty is found when there is suspicion of unhealthy transactions between exhibitors in various parts of the country. When members are at great pains to produce their best, and then get defeated with produce that is quite easy to see has not been produced in the county, disappointed exhibitors are turned into disgusted exhibitors, which is much worse. It would be a thousand pities for these instructive and educational meetings to die out, so if all are to rally round the banner, committees must make the game "worth the candle," and exhibitors "play the game."—Derbyshire-bred.

Fresh Air to Prevent Disease.

[9926] "W. T. E." (9916), writing on the above subject, in my opinion puts his finger on the right spot. He asks for other readers' experiences on fresh air for bees. Last autumn, after reading Mr. Pettigrew of Carluke's book on bees on the old skep system, I adopted his plan, and with an ordinary gimlet I bored about 30 holes through an old wooden skep containing stock of bees (hybrids) on ten combs. I occasionally put a brogue through the holes in case bees had propo-

lised them. They stood out on the open garden and wintered well. I got a swarm from them on May 25 that covered six frames. Mr. Pettigrew objected to wooden hives on the ground of their being most unsuitable for bees for want of proper ventilation, also for dampness on inside walls through same cause. He also, in his book, objects to calico and woollen quilts as unhealthy, and suggests wooden ones instead. He also objects to our modern methods of making up swarms by the very unnatural way of taking a few bees and frames of brood from other hives. He says the better way is artificial swarming. In his 40 years' experience he only once had foul brood in a skep, which had been overturned for a while. He toured through many counties of England in the seventies, lecturing on bee-keeping, and advising all bee-keepers to adopt larger skeps. His were 16 and 18 in. diameter, 12 in. deep, and he has often taken 120 lbs. of surplus honey from the despised straw skep. He says, if we used bar-frames hives, which were then only beginning to be used, we should have them constructed of straw and properly made.—J. P. Drew.

Commercial Wax Extracting.

[9927] The job that I most dislike in an apiary is melting down old combs. I use Gerster's type of wax-extractor, and my difficulty lies in getting it clean after use. The perforated zinc wax-holder, after melting old comb, is full of dross and wax, and as I find this zinc basket is just the thing to put the cappings in, it is necessary to get the holes clear to allow honey to run out through the spout. Has anyone found a quick and easy way of cleaning? I have tried boiling and wiping off the wax whilst hot, with rags—very wasteful with rags, and not at all a clean job when done—and also scraping when cold.

I found holding over a gas stove and allowing the wax to run away cleaned it best, but it makes a horrible mess on stove, and there is a possibility of melting solder. Every time I melt up a lot of comb I decide it shall be the last, but I do not like throwing away pounds of good wax.

Our season here is very early this year. I had a 12-lb. swarm on May 12, also young queens laying in nuclei before end of month. One hive is already over 7 ft. high and full of honey. I had to remove one rack of sealed honey on May 31, as it was too high to work comfortably. I left on hive one full rack of standard frames, and three of shallow not all sealed, and put on an empty one of standard frames. I expect by the middle of this month to have taken 150 lbs. of honey from this one hive. I have nine lots of bees now, and so far have seen no signs of disease.—Geo. M. Rosling, Paignton.

Cause of "Isle of Wight" Disease.

[9928] Referring to letter 9919 of issue of June 5, I, too, have heard it remarked that the disease was due to spraying of potatoes and fruit-trees, also of it being attributed to motor spirit from cars; but the opinion of better judges of the chemical properties of such things I am open to abide by.

Referring to next letter (9920), I should like the same question answered, because I have known of infected frames of comb occupied by bees, and they have even thrived afterwards. I have one particular case in my mind. The year 1917 all the bees died, and were left in the hive, just as they were, *en masse*. They collapsed in the winter, and the following spring a wandering swarm took possession, and last summer not only was an abundance of honey taken, but the stocks had increased to five, and this year they are going on excellently. The person had no knowledge of bees, so I took them in hand during the season mentioned.

One can, I think, often get a wrinkle from country folk. I have heard, for instance, a good medicine for bees is equal quantities of flour, sugar, and flowers of sulphur. Also, old folks tell me that of yore the price of honey was regulated by that of butter. There would be no advantage in selling for less or more if this was adopted as a basis. Having been a bee-keeper for 32 years, I am naturally interested in the craft.—E. J. A.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 24 to June 28, at Cardiff.—Royal Agricultural Society's Show, Bee and Honey Section, under the direction of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from The Secretary, 23, Bedford Street, Strand, W.C.2. **Entries close Monday, May 26; extended to June 9.**

July 23, Wyke and Normandy Horticultural Society Flower Show.—Open Classes for Section and Run Honey. Section honey prizes, 5s., 3s., 2s.; run honey (1919), 3 1-lb. glass jars, prizes, 5s., 3s., 2s. Entrance fee, 6d.—Hon. Sec., H. S. Mumford, Heatherside, Normandy, near Guildford.

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open

Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Monday and Tuesday, August 18 and 19, Cannock and District Horticultural Society, at Cannock.—Classes for Honey and Wax. £12 in prizes and medals (Open Classes).—Schedules from John Bird, F.R.H.S., "Glenmay," Cannock.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

TWO CLEAR, six Skeps, as good as new; two W.B.C. Hanging Section Racks, soiled, 6s. each.—Box 31, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.39

STRONG 4-framed Italian Hybrid Nuclei, 50s. —J. NELSON, Kemnal Warren, Chislehurst. r.26

DUTCH Cross Swarm, 30s.; 4-frame Nuclei, 35s.; cash; box returnable.—A. COE, Ridgewell, Halstead, Essex. r.27

HEALTHY Stock of Italian Bees on 6 frames, £4 5s.—15, Kelvin Avenue, Bowes Park, London, N. r.28

HEALTHY, reliable Swarms for disposal.—Send box, stamp for particulars, STANLEY, Pulloxhill, Ampthill. r.29

ITALIAN HYBRIDS.—Two good Stocks on six, also two on 8 frames, well filled with brood, guaranteed healthy, £3 10s. and £4 10s. each, carriage paid; boxes 7s. 6d. extra, returnable. Deposit system if preferred.—MAY, South Nutfield, Surrey. r.30

HIVES for Sale, standard bar frame. Having sold bees, have six hives, 15s .each, carriage paid; guaranteed healthy and clean.—GRIFFIN, Brook Farm, Colnbrook, Slough. r.32

WANTED, Steam and Solar Wax Extractors, Uncapping Tin, Ripener, Glass Quilts, and Observation Hive. Must be good condition and clean.—Full particulars to STEVENSON, Heath End House, Flackwell Heath, Bucks. r.33

HOLBORN HIVE, good condition, newly painted, free from disease, complete with 10 frames and full section rack, all fitted full sheets new foundation, 60s.—BOCKING, 5, Mayfield Road, Wimbledon, S.W.19. r.34

FOR SALE, one Nucleus, on 4 combs, 55s., or on 6 combs, 65s., in travelling box and carriage paid; 10s. returned for box if sent back in good condition.—Box 31, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.35

FOR SALE, surplus appliances, three well painted Hives, zinc roofed, £1 each; four new Skeps, 3s. each; two Feeders, 4s.; Foundation, 3s. lb.; Dixon's Skep Section Rack, 5s.; built-out Frames, 3s. 6d. dozen; Candy, Embedder, etc. List for stamp. — TOWNSEND, Brougham Street School, Skipton. r.7

WANTED, Cheshire's "Bees and Bee-keeping," two vols.—Price to Box 28, B.B.J. Office, 23, Bedford Street, W.C.2. r.16

FOR SALE, 19 Taylor's Single-walled Hives, covered with rubberine, 8 extra lifts; 1 new Honey Extractor, unused; 1 Wax Extractor; 28 Section Racks, fully filled; 15 Shallow Frame Boxes; 1 Swarm Box; 18 Taylor's Patent Excluders, 2 ordinary ditto; 1 Travelling Box, 10 frames, 1 ditto, 6 frames; 7 Winter Covering Boards; 2 Rymer Boards; 6 Porter Escapes, 1 Taylor's Bacterol Feeder; 2 large Rapid Feeders; 23 small Rapid Feeders; 1 Uncapping Tray; 2 Uncapping Knives, 6 new lever top Tins, hold 28 lbs. each; 2 Skeps, 1 Travelling Box for gross of sections. All the hives have been scorched and painted inside with chloride of lime and newly painted outside, and are in new condition.—Particulars and prices, Box 29, B.B.J. Office, 23, Bedford Street, W.C.2. r.17

THE Cambs. "Skyscraper" Hive, as illustrated in "Let the Bees Tell You," will be ready for delivery by clover blossom. Specifications and prices sent to anyone interested.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.124

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

DUTCH BEES.—Skeps all sold. Several hundred 6-frame Stocks (British standard size frames) coming from Holland. First consignment early June.—WHYTE, Cumbernauld, Dumbartonshire, British Agent for Hans Matthes. r.23

ITALIANS.—Strong Nuclei, 1919 Queens, 3-frame, 37s. 6d.; 4-frame, 50s.; crowded 6-frame stock, 70s.; 8-frame ditto, 90s.; two Swarms Hybrids, 40s. each. Cases returnable.—BOWREY, Swallowfield, Berks.

EGYPTIAN BEES.—Having received a fine Queen of a fasciata direct from Egypt, I am rearing a strictly limited number of Virgins, which I shall be pleased to distribute at a nominal price to those genuinely interested, for experimental purposes. No correspondence can be undertaken concerning this race at present.—F. M. CLARIDGE, Copford Apiary, Colchester. r.33

1919 FERTILE Italian Hybrid Queens; very prolific and disease-resisting strain. A number ready for immediate despatch; price 7s. 6d. each.—HOSEGOOD, 7, Purley Park Road, Purley, Surrey. r.36

DUTCH-ITALIAN Nuclei on one frame brood, fertile Queen, 1919, 25s.; box, returnable, 10s. Stamp reply; deliver at once.—HOUSE OF MERCY, Maplestead, Halstead, Essex. r.31

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

THREE-FRAME NUCLEI, Italians, 1919 Queens, delivery June and July, 3 gns.; box, to be returned within seven days, 10s.—EVANS, Goath Cottage, Endlebury Road, Chingford. r.25

1919 IMPORTED Golden Italian Fertile Queens.—Orders booked and executed in rotation. Regular supplies throughout the season. Price 14s. 6d.; specially selected, 17s. 6d. Cash terms. Stamp for reply.—GOODARE, New Cross, Wednesfield. q.119

WOOD for Hive Making.—1 in. planed boards, 22 in. by 15 in., 10d.; 22 in. by 8 in., 6d.; ⅞ in., unplaned, 27 in. by 4 in., 3d. each; all second-hand; tongued and grooved joints.—SMITH, 72 Norton Street, Hockley, Birmingham. q.94

ITALIAN Virgin Queens, bred from Penna's and Simmins' strains, 5s. 6d.; home-mated Queens, mid-June onwards, 10s. Safe arrival guaranteed.—MISS PALING, Golden Square, Henfield, Sussex. q.120

QUEEN Rearing and rapid increase Outfit, with British and American instructions, 15s. 6d. Swarming impossible with our right up-to-date appliances.—MEADOWS, Syston, Leicester. q.122

STRICTLY BUSINESS.—A copy of "Intensive Bee-keeping" sent free with a 1s. order for Flavine. A Japanned Sprayer 5s., post free.—S. H. SMITH, 50, Maid's Causeway, Cambridge. q.123

TO CLEAR.

W.B.C. Ends for brood frames, 3s. gross.
Ditto for shallow frames, 3s. 9d. gross; postage 6d.
Sections, 4¼, two and four-way split and grooved, 100, 7s. 6d.; postage 1s.
Excluders, 2s. 3d. each; postage 6d.
Metal Dividers, for 3 sections, 2s. doz.; postage 9d.
Wood Dividers, 1s. doz.; postage 4d.
List on Application. Established 1878.
WALTON & CO.,
MUSKHAM WORKS, NEWARK.

Italian Queens direct from Italy.

Address:
E. PENNA, BOLOGNA, ITALY.

I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-

Orders are booked in rotation.
Price List on application.

THE Governors of the West of Scotland Agricultural College invite applications for the post of ASSISTANT LECTURER in Bee-keeping.

The salary is £100 per annum, plus war bonus, which is at present 23s. per week. Applications, stating age, scientific training, if any, and practical experience, must be lodged with the undersigned by June 21.

JOHN CUTHBERTSON,
Secretary.

6, Blythswood Square, Glasgow,
May 24, 1919.

HIGHLAND AND AGRICULTURAL SOCIETY.

EDINBURGH SHOW, JULY 8, 9, 10, 11.

EXHIBITION OF BEE APPLIANCES AND HONEY.

£50 in Prizes for Bee Appliances and Honey. Time for Entries extended to Wednesday, June 18. Entry Forms from JOHN STIRTON, Secretary 5, George IV. Bridge, Edinburgh.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

An Exceptional Offer.

For the evolution of superior bee strains, we have not spared either time, money, or effort. Exceptionally high prices have been paid even for the weakest nuclei (from different parts of the Country) claimed to possess special qualities. These we have mercilessly sifted and only credited strains retained, without prejudice to colour or other secondary qualities.

Again, queens from leading apiarists in two continents have been secured and experimented with, and we have no hesitation now in offering

ADMINSON'S BEE STRAINS

as the finest bee strains available. Carefully selected and scientifically bred they fully represent standard "A" in quality and class "Z" in modern development: the best and the latest.

(1) Adminson's Virgin Queens **4/6** each.

(2) Adminson's Selected and Tested Fertile Queen's **17/6** each.

(3) Three-framed nucleus (a limited number available, only to ex-soldier apiarists) **£2 2 0** Carriage Paid.

(4) Three-framed nucleus with one year's free copies of "*The Bee World.*" **£3 3 0** Carriage Paid.

For travelling box: 10s. deposit, returnable.

Terms:—Cash with order; safe delivery and perfect healthiness guaranteed.

The Bee World.

An international monthly publication devoted to the progressive interests of modern bee culture. Annual subscription: 2/6, post free, payable in advance. First number will appear shortly. Absorbingly interesting, modern, and practical. To ensure regular delivery order your copy at once.

ADMINSON, LTD., Scientific Apiarists, BENSON, OXON.

Seasonable Hints.

We are afraid the prolonged drought will have checked the growth of flowers, and also the flow of nectar in those that are in bloom. Up to the present there is very little clover or sainfoin in bloom, but it is quite likely that when the rain does come there will be a number of plants in bloom, and honey will be stored rapidly. Plenty of super room must then be available or the bees will swarm. Charlock appears to be the principal source of nectar just now. As Mr. Kettle points out in his "yarn," this week, the honey from this plant has the quality of granulating very quickly, in fact we have seen it granulated in the comb before it was sealed over. On this account it is not good for section honey, and it will be well to use only shallow combs until clover is in bloom, and also to extract the honey as soon as it is sealed over. The cappings from charlock honey are a pale yellow, the honey being very light in colour. If sections only are used, and no extractor is available, they should be taken off and marketed as soon as possible.

The weather is all that can be desired for the mating of young queens, and the making of nuclei, for increase of stock, or queen rearing, should be proceeded with as fast as possible. It may be necessary to give nuclei a little syrup in those districts where there is not much forage.

Some of our correspondents have difficulty in finding the queen, and have asked where to look for her. Judging from their queries, some beginners appear to have an idea that the queen may be found in some particular portion of the hive, surrounded by a number of "ladies-in-waiting," as depicted in old drawings. There is no accounting for where the queen may be, especially when the bees have been disturbed by smoke, and finding her is a matter of practice. When searching for her use as little smoke, or other subjugator, as possible. If too much is used, bees and queen are sent scurrying all over the combs, and the queen herself may take refuge in the most unlikely place, or will hurry back and forth on the floor or side of the hive, to the utter discomfiture of her would-be captor. When handling bees they should always be treated gently, and this is more necessary when finding the queen than at any other time. Take out one or two combs if possible, making certain the queen is not on them. This gives room to move the rest of the combs gently, and leaves a space between those examined and the others, thus reducing the chance of the queen running back unobserved. Search each comb carefully both sides, and the *edges*, and when examining be careful to keep the comb over the hive. Queens are apt to drop off the comb; should they do so it is better they should drop inside the hive rather than under one's feet; also notice if there are eggs in some of the cells. If the queen is not found the first time, work the comb back again, and so far as possible keep an eye on the space between the combs. If she is not then found, and eggs in the cells show there is one, place the combs in pairs, with a space between each pair, down which light can penetrate, and leave them so for a few minutes. As the queen when in the hive prefers darkness rather than light, she will probably make her way between one of the pairs of combs, where she may be found.

At this time of year it is just possible that a swarm may have issued a little time before the hive is examined, and unknown to the bee-keeper. In that case there will be eggs in the comb, but the presence of queen cells, from one or more of which the young queens will be on the point of emerging, and the reduction in the number of bees, will give the clue to what has happened. If a queen cell is found open at the point, look for a virgin queen.

A Bee-Keeper's Appeal.

In response to this letter (9922) in the JOURNAL for June 5, we have received the following amount:—

	£	s.	d.
Amount received ...	19	0	0
Miss G. T. Thomas ...	5	0	0
Mr. F. E. Bennett ...	0	10	0
	£15	10	0

We shall be very pleased to receive further donations.

A Dorset Yarn.

Our bees are feeling the prolonged drought. They are consuming a lot of water now, more than we have ever noticed before in one week; a lot of it evaporates, but there are always some bees on the tray of water which we keep in our apiary, as late as eight in the evening. The food for young bees is used

in a liquid form; they must use water to make the pollen and honey into the proper consistency for the young brood: it would be no use for them to store it in cells, as it would take so long to evaporate, they would not cap any cells as long as a particle of water was in them, as they know it would not keep. For a drinking fountain I am using a round tray, about an inch deep, in which I have placed some moss, so that the bees can get the moisture easily without getting their feet and wings so wet, and there is no fear of them being drowned. The tray holds two quarts of water; it wants filling most days. The pollen they get must be very dry, as the flowers are so dry. We see our bees taking pollen from the large oriental poppies, it is nearly black, and such a quantity of it in each flower; each morning there are new flowers open, bees are with them always, several in each flower. As poppies contain opium, it is no wonder we want a lot of sleep, as we eat the honey. I am assuming that they get nectar also from the flowers, it must be very minute quantity mixed in with the nectar of other flowers. Most every morning we are at work when the sun rises, and work till dark; it is no trouble to get to sleep after that.

It has been cold each morning this week. The bees have not been out so early, they know that "sweet is the breath of morn," whether it is the moisture on the pollen made by the night's dew on the flowers, or the desire to put in a long day, one cannot definitely say, but when we see them using so much water cannot but assume it is the moisture on the pollen makes it sought after early in dry weather.

Mr. Tom Cox, a Birmingham beekeeper, called at the farm this week, making a tour south, to see the beekeepers. He works for extracted honey, using all Lee's wide standard bars. He finds with plenty of room above and below the brood chamber stocks that have a young queen rarely want to swarm. He has bought land down here (near Ringwood) intending to move south when retiring from business. The holiday week has brought many visitors of both sexes, even as late as ten o'clock at night. Bees are coming more to the front than ever; the letters we get show that they are booming. One writer told me he had sold stocks at £7 10s. each. We had two of him at £5 each. He has put up the price to £7 10s. since, and gets it. A nucleus of three bars 30s., with not many bees, seems to be about the limit of profiteering. One had better pay 30s. for a large natural swarm, as they always seem to do the best with the least trouble to the owner. Our first natural swarm is now on with the second rack of sections; have already sold 18 perfect sections from it. I used the other three for ourselves. Have still orders to execute at 3s. and 3s. 6d. each retail, beside supplying the large dairies at 2s. 6d. each, as many as we can send. People are realising the value of honey as a food. In my opinion it is fine for the system, gathered as it is from the purest flowers. Honey from flowers rich in nectar from many medicinal herbs which are much sought after, must of necessity be a good food to build up the body, particularly of those whose lives have been closely confined in city offices. Most honey is from many sources; to sell it as one particular harvest is to me a "bit thick." If one was a chemist and could get them differentiated, the bottlers of honey would be somewhat startled. We have cut sections at tea-time in which some of the cells had honey of quite another shade of colour to the others, yet they were filled in one week. Just now it is from charlock flowers. We aim to sell all that is taken from this flower as well as turnip, and all the brassica family as soon as possible, it seems to candy a good deal. Honey from limes and blackberries we like to keep for ourselves in winter.

Letters from the West, Truro, Cardiff, and from Scotland urge us to send exhibits of honey to their shows. They are all in the hay harvest, and with high railway journeys one who farms for a living cannot spend too much on shows and railways. It must be left to those with more leisure. With men at 40s. per week, and boys at 15s., it runs away with 14 and 15 pounds every week for wages. One woman and man, both old, had over 30s. for gathering fruit. The first strawberries realised 3s. 9d. per lb. in Bournemouth on June 6, and June 14 1s. 9d. per lb. There will not be a time of cheapness again. We have sold many hundreds of 4-lb. "chips" of strawberries at 8d. and 10d. per basket. Gooseberries are the heaviest crop ever seen in Dorset; we put it largely to the bees—they were on them in thousands as soon as the flowers were open. We pay 6d. each dozen for picking, and get 6s. per dozen for them at the shops, and markets. One picker had 40 dozen to his credit last week, a few dozen the week previous, and mostly from one field. We have nearly 3 acres giving us 20 and 30 dozen each row. Readers will see that it would not be wise to sell bees, when they help with such bumping crops. Bees on our farm seem to be as "the goose that lays the golden egg"; they certainly add materially to the interest of the farm, as well as helping the credit side of accounts.—J. J. KETTLE.

Legislation.

Quite recently, American apiarists have started complaining about the harmful results of "unwise inspection," and the centralisation of control authority. As an illustration, Mr. Frank C. Pellett's letter in the May issue of the *American Bee Journal* will be found instructive. Long before the appearance of these complaints, the writer had insisted on the importance of instructive inspection, on the necessity of Government encouragement to bee-keepers, if a real revival of bee culture in this country is to be attained, and yet of a constructive and vigorous control, aiming at excluding the unfit, who will not yield to rightful guidance. I have neither missed nor forgotten the "defensive side of legislation," as Major Sitwell calls it. The pages of the British Bee Press for nearly three years will afford sufficient proof of this. In fact, I believe that commercial bee-keeping in this country is not worth an hour's thought, and is bound to continue as a gamble, in the absence of protective legislation. Hence it is undoubtedly a sensible duty for every progressive apiarist to strengthen the hands of the B.B.K.A. in their endeavour to secure the State supervision of apiaries. At the same time, let us not forget the peculiar diseases, and the habits of our winged friends: neither should we ignore that if the element of compensation were to be excluded, discouragement in place of the sorely needed encouragement will follow its trail. A special form of legislation to meet the requirements of the case is imperative, and not a mere imitation of existing laws applying to animal diseases.

As to whether the introduction of compensation is advisable or otherwise, it will suffice for me to say that even diseased bees, during the honey season, are commercially of some value, from the point of view of honey production, although during the winter time they are possibly of no value, unless after their dwindling a small nucleus fit for the early introduction of a good queen in the spring should survive. But as it is in the interests of the community to isolate and treat, and in some cases to destroy, such diseased bees, it is clearly the duty of the State also to compensate the losers, if they have to give up such diseased colonies. Then, again, it is a case of whether bee culture in Great Britain is in need of a Government grant or otherwise; and if such aid is vital for proper development, surely part of it should be directed to unfortunate apiarists who are conscientious and law-abiding. *There is no case whatever for the defence of the negligent and the anti-communist.*

Artificial Heat, Again!

I have previously examined Mr. Charlton's first contribution: "Experiments with Apparently Dead-and Dying Bees" just as presented, with no intention of introducing a new subject, but simply aiming at proving the inaccuracy of his wide conclusions, which I did not think could be fairly deducted from his experiments.

Mr. Charlton rightly admits that to bees "heat is life," and adds, "but the point is, can we supplement their heat in a handy form, to be of any benefit to them?" Further, he assumes that I would take as a guide "the temperature of a winter cluster of bees, and not allow the temperature of the supply to be below it; and, if above, to be only slightly so. Because, if the bees became excited through the extra heat they would consume more food, and also produce more waste, which, in case of prolonged confinement, would be disastrous to them." There is no reason why artificial heat should not benefit the bees in winter if judiciously applied. I have discussed this subject again and again on previous occasions. Similarly, complete answers will be found to Mr. Charlton's second question in my earlier contributions. I cordially agree with his last words quoted, and I have myself said the same thing in different words, repeatedly. But he is not correct in his assumption that I would not allow the temperature of the air supply to be below that of the cluster. *No greater mistake than this could be committed in applying artificial heat for wintering.* Taking the temperature of the cluster at, say, 65 deg. F., the temperature of the air supplied should be sufficiently low as to allow for the generation of animal heat, to prevent excitement, and yet not too low to cause excessive hibernation, the forerunner of avoidable starvation and death. A temperature of 55 deg. F., of 50 deg. F., or of 45 deg. F., or thereabout, may be just the right temperature; variations have to be met with in various cases, principally depending on hygrometric conditions. But if we take as a safe minimum a temperature of 42 deg-45 deg. F., we would be, on the one hand, far from an exciting degree of heat, and, on the other hand, sufficiently above such a low temperature as 32 deg. F., which is just as bad in inducing bees to over-feed

(especially in the case of weak colonies), as, say, a temperature approximate to, or above that of the cluster, over-feeding in the one case being due to the urgent need for excessive heat generation to combat the cold temperature of the fresh air supplied, and in the other case being the logical sequel to unseasonable activity.

The required attention to the heating system is hardly worth mentioning, provided it is of a scientific character. Hot water pipes are to be condemned, because their heat generation cannot be properly controlled. In the absence of electricity, paraffin should be employed for heat production, and in both cases efficient regulators and thermometers have to be used, and the positions of the radiators should be carefully selected. In my original illustration of a suggested winter apiary, published in THE BRITISH BEE JOURNAL for February 13, 1919, electric heat supply is depicted, and the object of such a winter apiary is not only to reduce harmful atmospheric conditions to a minimum, but also to reduce heat loss from the hives to a reasonable minimum. Simple hives are suggested, but packing must also be adopted. There is no control here over the temperature of the supplied air, but there is control over heat loss, and the net result is almost the same. There is no inconvenience to the owner in attending to such colonies.

As for *the merits of out-door wintering in rendering bees more "hardy,"* sufficient answer will be found in my "Comments" in the JOURNAL of May 29, and there is more food for thought in analysing the winter outdoor losses met with in this country, other than those due to established cases of malignant dysentery. This year Pascall's candy has been held responsible for the trouble!

At this point I would refer for a moment to the notes of Mr. Herbert Mace. He says that it is "beyond question, apart from the simple yet striking experiments of Nutt, that bees thrive better in sharp winters than in mild ones Does cold really kill healthy bees in a state of hibernation, or can the suspension of activity last practically indefinitely? The fact that bumble bees were first successfully exported to the antipodes in refrigerating chambers seems to show that it can. If so, so long as the bees remain with the cluster, they will come round again in the normal course of the season." It is this "so long" which counts. Please do not forget also that not all the clustering bees are so fortunately protected as the queen. Rows after rows of exposed bees will in time be lost, and a colony composed of a large proportion of young bees, and densely covering, say, eight frames in October, will not be found frequently to cover half this number in February. This is more than enough to account for close clustering. Before the hive floor board is given the annual cleansing (!), say, early in May, the bees are sure to have removed a considerable number of the dead, and the bee-keeper becomes contented with the situation, so long as the colony as a whole survives, whether depleted or otherwise, never troubling for a moment to study what has happened. The weather is sometimes held to blame as an indirect cause of the weakness of the colony, whose members are supposed to have been healthy and young when wintered. Yes, "so long"; but there are also limitations, according to the strength of the colony; and there are sacrifices to be incurred, even with the strongest stocks; and there are, moreover, amazing exceptional instances of bees surviving the winter in spite of negligence—such exceptions, as I mentioned before, merely support the rule. We know from experiments for one thing that the heart of a honey bee ceases to beat at 32 deg. F. Let Mr. Mace attempt to disprove this if possible, or to prove that a colony which is not sufficiently strong to combat by their animal heat excessive cold are capable of survival. How can a hive bee possibly enjoy complete hibernation when her food supply, when assimilated, is sufficient only for a very short period, as testified to by all bee physiologists who have studied her winter habits? A colony may possible be transferred in a refrigerating chamber, at no small sacrifice, but I sincerely doubt that such an experiment could prove other than a curious exception. An irregular mild winter is certainly no better than a cold one. The latter may be better if not too severe, and if regular, because in the former case, the irregular activities are sure to disturb the metabolism of the bees, and to shorten their lives, which bear a direct proportion to their activities. What is far superior is a temperature of healthy repose, which could be kept regular and under control. To attain this, artificial heat rather than artificial cold will be needed in this country.

The *expenditure on artificial heat* for winter protection and for both autumn and spring stimulation is economically sound. A weak colony, the potential value of which may not be small, and, which, for one reason or the other, has not been united to another colony, would be saved from the fatal cruelties of severe wintering. This I have succeeded twice in establishing. Further, a strong colony will be saved unnecessary sacrifices and kept sufficiently strong by judicious spring stimulation. The advantages of prolonging autumn breeding, within

limits, are also quite obvious. Artificial food of the right quality will materially help in the absence of natural supplies.

I am glad Mr. Charlton admits *the advantages of artificial heat for weak colonies*, and trusting that I have sufficiently replied to his questions, I hope he will favour me with additional criticisms, if any, as it is with all of us a case of learning, on the one hand, and serving knowledge on the other, in whatever small degree this may be, and I personally appreciate helpful criticisms.

There are just one or two points which I have to refer to before concluding. I would humbly suggest to Mr. Charlton that the fatalities amongst his colonies are apparently due, from his description, to either (1) disease, or (2) harmful atmospheric conditions; but as for the ability of healthy chilled bees to return to their home when re-invigorated sufficiently early, it is a simple matter for me to give the names of no few witnesses of experience. An essential factor is comparatively favourable outside conditions, which will not cause immediate re-chilling.

Finally, regarding the harmful effects of segregation, Mr. Charlton need not be surprised at my assumed forgetfulness, which is not the case. The Government researches in their able investigations of 1912 recorded the *occasional* presence of *Nosema Spores* in the dust. But considering that the colonies in the suggested winter apiary have external and independent air supply, and are less exposed to currents of air than those in an out-apairy, this problematic risk is surely smaller in this case. Further, it is a practical impossibility for a big apiarist, at least from an economical point of view, to leave his many colonies during winter distributed over a wide area. Should any of the colonies develop dysentery, immediate isolation and the usual precautions have naturally to be taken; but this question is beyond the scope of these notes. And it will suffice for me to say that segregation in various degrees, both in this country and abroad, has been in practice for a long time, and it has rarely been an evil, except to careless apiarists, who are merely satisfied with so-called strong colonies, without differentiating between bees and bees. In the words of Graham Smith and Bullamore, referring to *Nosema Apis* infection, "many bees exhibit considerable powers of resistance to this parasite, as evidenced by the fact that they are capable of surviving, while the parasites develop in immense numbers in the cells of the chyle stomach and reach the spore stage. Zander thinks that every infected bee dies sooner or later as a result of the infection, but our observations indicate that the parasites sometimes occur in small numbers, and reach the spore stage without apparently affecting the health of the bee." The selection of well-bred strains and the establishment of hygienic factors in bee life during all seasons, are more deserving of Mr. Charlton's attention when offering advice.*

* In the previous "Comments" in the JOURNAL's issue for May 29, the following misprint occurred: p. 217, c. 2, l. 58, the words "of course" should be read "so coarse."

Jottings.

War Work.—Things apicultural, like most other things, have suffered, and will take a season at least to get into an ordered state of affairs, where the owner has had a year or two of this scourge to humanity. Where to start and how to do it, is almost a conundrum. I myself find hives leaky and almost paintless. Queens, strains, and ages, a query. Two hives possess sets of combs, six and four hopelessly entangled; on lifting another rack, up come three slabs of lovely comb, from where the zealous helper had at some time taken some shallow frames leaving the gaps open; but, more sad to relate, disclosing a very large heap of poor starved bees! Still another hived in a box, prospectively to come down into a well-built set of drone combs, while the holding itself is well coverd with hawthorn and plum sucklings, a re-settlement and re-creative (?) problem of its own.

Loss of Stamina (Page 172).—While not exactly a new topic for discussion in the JOURNAL, this is put in quite a new manner, and surely deserves more consideration, and is specially opportune in its connection with the extensive re-stocking efforts which are being made all over the country. I consider, unless some organised scheme of re-queening with unrelated stock is practised, it will in some measure eventually defeat the results hoped for, and would not be thought feasible in any other stock production. Our associations pay little or no attention to the possibilities of such a scheme, which should prove one of the finest privileges and advantages to be acquired by joining such an organisation. I fail to see that this should be an expensive departure, as any expense should be met by those desiring such a change of stock, and this convenient and ordered state of affairs should prove interesting, as well as profitable, to all concerned, and should create a real feeling of usefulness if properly handled. The advantage of such a pure stock register is quite obvious, and should go far towards creating a real interest in Association work.

Kindred Spirits.—We are not alone in our re-stocking efforts at this season. For some days we have had in our window, taking advantage of the shutter bolt hole, a mother carpenter bee, who waited patiently each morning outside for the window to be opened to resume work for the day, which consisted of a lining of clay and the formation of three divisional tubes. How many larvæ are deposited I don't know, but they are now hermitically sealed so far as I can see, and it is astonishing to find one insect able to gather the amount of clay necessary.

Wiring Frames.—A complete turn round hooks, instead of just over, this, besides making a straight surface, makes a much more rigid job, it will also be found that if commencement is made at a top hook drawing the bottom horizontal wire up instead of the top down, gives a more taut intersection where it is most needed, as the top bar strengthens the upper portion.

We have also a humble bee which has taken possession of a box with some parsnips in it, using the small shavings of wood about the shed. And in a gooseberry tree near I found a miniature wasp nest, with a saucer-like covering—a very pretty work of art—the occupants were the queen, two hatched, and about a dozen grubs all sizes, which were full of animation, but whatever good these insects are, in the destruction of vermin, they must be considered the enemy of man, and pay the penalty, but I hardly liked the job.

Surrey Bee-keepers' Association.—It is with much regret I read that our long-esteemed secretary, Mr. F. B. White, also our able chairman, Mr. Welch, are about to retire; it is to be hoped this will not be allowed to finish here, but how this is to be accomplished without facilities for meeting, I don't know. The present seems a desirable time to plan some fresh and more up-to-date system of organisation, that the Society may perpetuate its long record of usefulness. There are complaints in the Guildford area, now is the time to voice them, and not to undermine, but with the idea of assisting and doing one's part. *What about a series of local meetings to discuss the whole business?*

Telling the Bees.—A remarkable instance of the foregoing occurred in my garden not long ago. A small, recently occupied travelling box was placed on a temporary stand about two p.m. I noticed it attracted the attention of four bees, an hour after some two dozen had collected, and were in at the lid and generally overhauling it; at seven p.m. along came reinforcements in the shape of a nice little cast. I saw the queen enter the tiny entrance, and they were soon accommodated with four frames.

Yellow Thieves.—Our old pre-war subjects of wordy battles now undeniably deserve some of the characters given them, as they are now stealing reputations as well as comrades' stores. Everywhere the cry is "Italians." We shall soon have to re-establish the native bee, surely they were worth "hybridising," as they were not all "Dutch," and the survivors should have mettle.—A. H. Hamshar.

Royal Cornwall Show.

At the Royal Cornwall Show, held at Truro on June 11 and 12, the entries for the honey classes (under the management of the Cornwall Bee-keepers' Association) were very good. The judge was Mr. Cardell Williams, St. Erth, who made the following awards:—

3 1 *lb. Sections of Honey.*—1, Williams, Idless; 2, A. Knight, Kenwyn; equal 3, M. Keast, Allet, and Goonhavern Boys' School.

3 1 *lb. Jars of Light Run Honey.*—1, Salt; Saltash; 2, Knight; 3, C. Keast, Allet.

3 1 *lb. Jars of Dark Run Honey.*—1, Salt; 2, Parker, Mevagissey; 3, Harrison, Hayle.

3 1 *lb. Jars of Granulated Honey.*—1, Salt; 2, Knight; 3, Rowland, Roche.

Cake of Beeswax, not less than 1 *lb.*—1, Salt; 2, Davey; 3, Knight.

A very interesting lecture and demonstration on "Practical Bee-keeping" was given by W. Herrod-Hempsall, Esq., F.E.S., bee expert of the Board of Agriculture.—S. Alix. A. Buck, Hon. Sec.

Doncaster & District Bee-Keepers' Association.

A lecture on bee-keeping and a demonstration on the manipulation of hives and bees, was given by the hon. secretary, the Rev. G. H. Hewison, on Thursday evening, June 5, at the apiary of Mr. W. T. Chafer, Thorne Road, Doncaster. The lecture and demonstration were given in connection with the scheme arranged by the Yorkshire Council for Agricultural Education and the Leeds University. There was a very good attendance, about 40 bee-keepers being present. The lecturer remarked that through the prevalence of disease there was a very serious shortage of bees all over Yorkshire, and he urged bee-keepers to co-operate in their endeavours to keep only healthy stocks. He suggested that disease was possibly the legacy which the old skeppists had handed down through their destroying the

strongest and most prosperous stocks when taking the honey. He went on to show the importance of the honey-bee from the horticulturist's point of view. He advocated keeping stocks strong, and headed by young and vigorous queens, and keeping stocks in dry, clean hives. The symptoms of the disease and the precautions which should be taken were carefully explained.

Three stocks were examined, and the lecturer had an excellent opportunity of pointing out what the conditions should be in a healthy, strong stock. One of the stocks examined did not fulfil the conditions of a vigorous, prosperous colony, and he strongly advised requeening as soon as possible.

The weather was perfect, and a most enjoyable evening was spent.—*Communicated.*

Combs from Other Hives.

Those Prolific Strains.

NOT SO GOOD AS THE BEES THAT WILL GATHER SOME HONEY EVEN IN A DROUTH.

In selecting a queen for breeding purposes I prefer a colony that is able to gather honey at times when most other colonies cannot. In other words, I am always on the lookout for the colony that excels in a time of comparative dearth. Again, although I am probably going contrary to the belief of the majority, I do not like an extra-prolific strain of bees. There may be such that are good storers and not given to swarming, but I have not seen such. A moderately prolific strain that will breed well early in the season, with a tendency to slacken somewhat as the flow becomes heavy, is the kind I prefer, and if I cannot get as large a yield per colony in very good seasons I will keep enough more colonies to make the aggregrate crop as much, and, I believe, in certain seasons more. My idea of a suitable strain of bees is one which, in a given locality, will, one year after another, give the maximum amount of honey with the minimum expense of labour and feed. Where bees are allowed to breed promiscuously, as in natural swarming, we find all the way from fairly good to almost worthless except in an extra good location or in exceptionally good seasons. We find in apiaries of these mongrel bees the yield running from 200 lbs or more, in a favourable season, down to nothing per colony, while in a season rather unfavourable we may find little or no surplus, and most of the colonies in poor condition for winter.

Now, if we select a strain that will gather a little in time of comparative dearth, we shall be able to keep a more uniform number of colonies from year to year, not only getting some honey in lean seasons, but coming through to the good seasons with a full equipment of good colonies. How many times has the writer seen people become enthusiastic over bees during a good season when almost anything in the line of bees would yield something, only to lose most or all their bees a year or two later following a more unfavourable season! This is, in my estimation, one substantial reason why the farmer should not try to keep bees. He will not, as a rule, breed bees, but will undertake to keep mongrels which cannot thrive except in favourable seasons.

If any think I am fanciful in this, just turn your mind to any kind of stock. Let your stock breed hit or miss, you doing no selecting as to parentage, and what kind of stuff will you have in a few years? Yet this is just "Nature's way," so much lauded by some when it comes to bees.—E. S. MILES, from *Gleanings.*

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Overworked Queens and "Isle of Wight" Disease.

[9929] In the issue of June 5 of the JOURNAL appears a most interesting letter from Mr. Stich. Much of it tallies closely with my own ideas expressed in a previous letter to you. His main point is that "Isle of Wight" disease can be induced by forcing the colony. He goes further, saying that he has actually experienced this, and asks others to experiment to confirm the matter.

I sincerely hope some bee-keepers may be found sporting enough to work four stocks on the lines he suggests, and can only regret my own inability to be one of them.

In an earlier letter (April 3) Mr. Stich enumerates five facts relating to the disease:—

1. Disease generally confined to bar-frame hives.

2. Disease unknown in Italy and America.

3. Ligurian bees more resistant than natives.

4. Annual requeening keeps disease in check.

5. Incidence much higher among colonies which have given a surplus than among bees which did not rise into supers.

Each one is taken in turn and an explanation offered, to which I would refer readers. To the foregoing I will add (from Simmin's "Bee Farm"):—

6. The first evidence may occur with a sudden accession of heat.

7. May also be seen soon after giving fresh sheets of foundation.

And on my own account two more:—

8. Professional queen-rearers can often boast immunity (not altogether without reason).

9. Disease only came into prominence *since* modern methods became generally adopted.

Now, every single fact fits in with the theory that "Isle of Wight" disease is made possible through senile decay, lowered vitality, degeneracy, exhaustion—call it what you will—of the bee, brought on in turn by the "forcing" of the queen.

The first five are ably treated by Mr. Stich.

6 and 7 are naturally times of great exertion, and, remembering that the bees have probably been bred from generations of overworked queens, frequently act as the last straw.

8. The connection here is not so apparent, but exists nevertheless. The professional queen-rearer has little need to "force" his queen-mothers; no doubt certain of his colonies have to be hurried along, but what call is there to hurry the queen producing the eggs to rear future queens?

With the usual honey-gathering apiarist the case is different. Here is a man with a dozen hives. One colony lends itself to "forcing" far above the rest; this queen's eggs rear next year's queens; the process is repeated till after a year or two the man is left with a bee, for generations worked to death, ready to go under at the first opportunity.

Now, if this man obtains a queen from the professional, it is quite likely that in the day of trouble his own stocks are found wanting, while the strange queen flourishes; consequently the testimonial we all know so well—"The only stock left was headed by your queen," etc.

9. Needs no further explanation, being self-apparent. Perhaps it is mere coincidence, like a spun coin falling "heads" nine times running; it might, of course, but I should begin to wonder whether it had a "tail." Similarly, here I am forced to the logical conclusion that there is a a connection between "forcing" and "Isle of Wight" disease; that they are, in fact, cause and effect.

It is to be hoped that this suggestion of endeavouring to bring about "Isle of Wight" disease by forcing will not fall on deaf ears. The terrific importance of *battling* this disease should never be absent from the bee-keeper's mind, whereas at present their only hope appears to be to escape the "infection." Once determine what can cause it, and it matters little whether science can discover a microbe or not.—THOS. F. COBB.

The Journal as an Advertising Medium.

[9930] It speaks well for the value of your JOURNAL as an advertising medium, that I have written a number of letters for bees advertised for sale therein, only to find that they have all been sold "long ago." Indeed, the advertisers seemed surprised that anyone should close with their offers by means of letter rather than telegram!

I want some bees, having lost all mine, while away in France, from two causes, firstly, "Isle of Wight" disease, and secondly, by the attentions of local school-children, who entered the field and took off the roofs of the hives in the cold weather (first removing the heavy stone slabs upon the roofs)—the outcome of their course of "Nature-study" at the schools, presumably.

If anyone with modest ideas as to the value of bees, seeing this letter, cares to sell me a stock or swarm, I shall be glad to purchase *through your* JOURNAL, but I do not care to pay such prices as five guineas for a stock or three pounds for swarms.

Seventy shillings for a good stock, delivered at Smethwich, or thirty-five shillings for a swarm, preferably Italians, is what I can offer for healthy bees, but if none is obtainable at these prices I shall get one of the Dutch skeps I think, or wait till more reasonable prices rule to recommence bee-keeping.—WALTER CAMM, 191, High Street, Smethwick, near Birmingham.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of May, 1919, was £94,001.—From a return furnished by the Statistical Office, H.M. Customs.

Notices to Correspondents

W. R. J. (Cornwall).—*Swarm deserting skep.*—It is not at all unusual for a swarm to desert the home provided for them by their owner, either skep or frame hive. So far as a skep is concerned, you can do nothing to induce them to stay beyond putting a feeder of syrup on the top. Your method was all right; it is just one of those things that will happen. A skep should be supered when it is full of bees and comb. Remove the bit of comb from skep.

S. Marfleet (I.O.W.).—*Dead queens thrown out.*—If no swarm has issued, the bees have been requeening themselves, and the first queen out of the cell has killed the others.

K. Kendall (Spilsby).—See reply to "Salop" in this column, June 5.

D. J. Avey (Norfolk).—The bees were hybrids.

"A Novice" (Sussex).—See "Seasonable Hints" in this issue.

C. M. Cardale (Painswick).—It may be adopted any time during the honey flow.

H. G. Young (Alton).—So far as we know the fly will not harm the walls. Are you certain they are the same kind of insect? Try spraying the wall with carbolic acid and water.

J. C. B. (Atherstone).—(1) There was nothing wrong with the comb, only it was broken and the wrappings were smothered in a lot of honey. (2) Bees were too dry for diagnosis. (3) It is "I.O.W." disease. (4) Hybrids. You may requeen any time from now. Whether it is wise to do it now depends on circumstances. If the queen is failing, or the bees are vicious, do it soon as possible, otherwise leave it till after the honey is taken off.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 24 to June 28, at Cardiff.—Royal Agricultural Society's Show, Bee and Honey Section, under the direction of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from The Secretary, 23, Bedford Street, Strand, W.C.2. **Entries closed.**

July 8, 9, 10 and 11, Highland and Agricultural Society, at Edinburgh.—Exhibition of Bee Appliances and Honey.—Particulars from John Stirton, Secretary, 3, George IV. Bridge, Edinburgh. Entries closed.

July 23, Wyke and Normandy Horticultural Society Flower Show.—Open Classes for Section and Run Honey. Section honey prizes, 5s., 3s., 2s.; run honey (1919), 3 1-lb. glass jars, prizes, 5s., 3s., 2s. Entrance fee, 6d.—Hon. Sec., H. S. Mumford, Heatherside, Normandy, near Guildford.

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Monday and Tuesday, August 18 and 19, Cannock and District Horticultural Society, at Cannock.—Classes for Honey and Wax. £12 in prizes and medals (Open Classes).—Schedules from John Bird, F.R.H.S., "Glenmay," Cannock.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries close August 30.**—Apply to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

Special Prepaid Advertisements.

One Penny per Word.

PRIVATE ADVERTISEMENTS.

ITALIANS, two strong and healthy Stocks on ten frames, well filled with brood and honey, £4 15s., or £5 5s., including hive.—REA, Horncliffe, Upper Warlingham, Surrey. r.40

SWARM of Bees for Sale, medium size, £2 2s.—P. CONROY, Market Place, Chorley, Lancs. r.41

10 LBS. Weed Foundation, brood; 50 dovetailed standard frames, top bar inch wide, in flat, 36s., or exchange swarm of bees to value.—KIRBY, 54, Vernon Road, Aylestone Park, Leicester. r.42

STRONG 4-frame Italian hybrid Nucleus, June, 1919, Queen, 48s.—SHAW, "Betula," Parkview Road, New Eltham. r.43

TWO Strong NUCLEI, four and five frames, fine strain, 40s., 45s.; box 10s., returnable.—DAY, St. Asaph, Stevenage. r.44

SURPLUS Hybrid Italian Queens, virgins, 5s.; fertiles, 1919, 7s. 6d.—HILDRETH, 41, Threeshire's Oak Road, Smethwick. r.45

GLASS for Sections, 4s. per 100 pieces. Wanted, swarms healthy bees, by weight.—G. THOMAS, Causeway, Burwell. r.46

FOR SALE, guaranteed pure light English honey, £10 10s. per cwt, f.o.r., sample 6d.—LAW, Cuckoo, Ashwell, Herts. r.47

SURPLUS fertile Hybrid Italian Queens, 7s. 6d. each.—HARPER, 39, St. James Road, Watford. r.48

ITALIANS.—10-frame stock, price 90s.—Beech Cottage, Longton, nr. Preston, Lancs. r.49

FOR SALE, Honey Extractor for two frames, loose cages and lids, Cowan cog-gearing handle at side, fine condition, £2 2s.; also two strong stocks Italian bees on ten frames, £5 10s. each.—FAY, Bee-keeper, Havant. r.50

FOR SALE, 6 frames healthy Italian hybrid bees, and brood, 1918 Queen, 50s.—130, Hawthorn Road, Kettering. r.52

NEW SUPER and lift, 32s. 6d., second-hand; three supers and lift, 25s.; one super, 16s. 6d.; 5-frame Nucleus, 7s. 6d.; smoker, 4s. 6d.; dummies, 6d., guaranteed healthy.—40, Woodford Grove, Patricroft. r.51

FOR SALE, six beehives, frames, excluders, section rack, and appliances, cheap, to clear.—W. ABREY, Tobacconist, King Street, Melton Mowbray r.53

100 well-made new Standard Frames, wired, fitted Taylor's Weed foundation, 12s. dozen, carriage paid; 150 brood combs, 1918, thoroughly soaked in 1zal; best offer accepted.—W. G. BRANDISH, Ettington, Stratford-on-Avon. r.54

FOR SALE, Beehives, various good makes, supers, honey extractors, tins, foundation etc., etc. Full list on receipt of stamped envelope.—RHODES, 395, Lord Street, Southport. r.55

FEW surplus 1919 Queens, Penna's Italian strain, 7s. 6d.—MOORE, Goathland, Tower Road, Bournemouth West. r.61

FIVE full frames capped brood and bees, headed 1918 Queen, 60s.; swarms, 45s.; immediate delivery.—H. WILCOX, 46, Lyndon Road, Olton, Warwicks. r.56

BEES.—Three healthy stocks of Italian hybrids, on 4, 5 and 6 frames, £3, £4, and £5 each; boxes returnable, or 7s. 6d. each.—E. FERRIS, 4, Chapel Lane, Fishponds, Bristol. r.57

STOCK of Italian Bees, on 5 frames, £3.—15, Kelvin Avenue, Bowes Park, London, N. r.58

FOR SALE, a push cycle side carrier, for transporting hives; and several pounds Weed brood, and extracting foundation.—COLGON, 48, Palatine Road, Northenden, Cheshire. r.59

FOR SALE, 3 new unpainted hives, 5 second-hand hives, quantity of good second-hand section racks, etc. Particulars supplied for stamped addressed envelope.—J. T. GRAINGER, Brandsby, Easingwold, Yorks. r.60

WANTED, stock and goodwill of genuine small country business, in good bee district.—Particulars to Z., B.B.J. Office, 23, Bedford Street, W.C.2. r.62

THE highest offer secures 7 frames of brood, bees and stores, headed by 1918 Queen, vigorous, healthy and good-tempered strain, just the kind for ladies or novices. Stamped envelopes or P.C. for replies. Don't forget the highest offer received during the week will secure them.—C. C. DE SAVE, 679, Romford Road, Manor Park, E.12. r.63

INVALIDED home from the Balkans, now discharged.—Could any bee-keeper offer me an Italian swarm at a reasonable price?—Please write J. MAYNARD, 3, Majuba Villas, Canning Road, Aldershot. r.64

FOR SALE, several W.B.C. hives, new condition, 30s. each.—ELLIOTT, Whitebrook, Monmouth. r.65

HIVES, good as new, 16s. to 25s., with section racks.—GREEN, Bee-keeper, Laindon. r.66

PURE Flemish Giant doe, also pure Flemish Belgian, with two young, eight weeks, 25s. the lot for immediate sale. Deposit.—MISS CARDALE, Painswick, Glos. r.67

5 W.B.C. Hives, interchangeable, newly painted, £1 each.—HALL, Park Street, Walsall. r.68

FOR SALE, Steam Wax Extractor, good as new, only used twice, cost 22s. 6d., will sell for 15s.; also wax mould, in good condition, to hold 8 4-oz. cakes, price 3s.—NEEDHAM, Hemel Hempstead. r.69

FOR SALE, two stocks, six frames each, hybrids, healthy, prolific, £3 each; also one strong swarm, in good skep, 35s.—JERVIS, White Villa, Langney Farm, Eastbourne. r.70

FEW 3-comb strong, healthy Nuclei for Sale, headed by tested fertile first-cross British-Italian Queens, 45s. Send box if possible.—HOLMES, "Pendennis," Leagrave, Luton. r.77

ITALIAN Hybrids, guaranteed healthy, delivery June 19 onwards; three 10-frame stocks in boxes, £5 10s.; three 8-frame in hives, £5 5s. Owner leaving district.—STRATTON, Barn Lane, King's Heath, Birmingham. r.81

TO CLEAR, six Skeps, as good as new, 2s. 6d. each; two W.B.C. Hanging Section Racks, soiled, 6s. each.—Box 32, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.39

ITALIAN HYBRIDS.—Two good Stocks on six, also two on 8 frames, well filled with brood, guaranteed healthy, £3 10s. and £4 10s. each, carriage paid; boxes 7s. 6d. extra, returnable. Deposit system if preferred.—MAY, South Nutfield, Surrey. r.30

HOLBORN HIVE, good condition, newly painted, free from disease, complete with 10 frames and full section rack, all fitted full sheets new foundation, 60s.—BOCKING, 5, Mayfield Road, Wimbledon, S.W.19. r.34

FOR SALE, one Nucleus, on 4 combs, 55s., or on 6 combs, 65s., in travelling box and carriage paid; 10s. returned for box if sent back in good condition.—Box 31, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. r.35

FOR SALE, surplus appliances, three well painted Hives, zinc roofed, £1 each; four new Skeps, 3s. each; two Feeders, 4s.; Foundation, 3s. lb.; Dixon's Skep Section Rack, 5s.; built-out Frames, 3s. 6d. dozen; Candy, Embedder, etc. List for stamp. — TOWNSEND, Brougham Street School, Skipton. r.7

THE Cambs. "Skyscraper" Hive, as illustrated in "Let the Bees Tell You," will be ready for delivery by clover blossom. Specifications and prices sent to anyone interested.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.124

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

SELECTED Italian Virgin Queens, Penna's strain, 3s. 6d. each, or 3s. each in lots of six, upwards; strong 4-frame Nuclei, £3 3s. each. Safe arrival guaranteed; carriage paid; cash with order. —E. W. D. MADOC, Mattishall, Dereham. r.19

50 GOOD Nuclei for Sale, 3 frames, pure Italian Queens, mated with black drones, delivery before July 7; sell one lot, or separately. Inspection invited.—Offers to ROLLETT, 4, Neale Street, Leicester. r.71

ENRICO BOZZALIA has a limited number of 1919 purely mated Italian Queens available for June delivery. Price 10s. 6d. Order immediately from Sole Agent, H. M. STICH, Riccartsbar Av., Paisley. r.72

THE PREMIER BEEHIVE CO.—Dutch-Italian Nuclei, immediate delivery, 2, 3, and 4-frame, price 32s. 6d., 45s., and 57s. 6d. respectively. Orders delivered strictly in rotation. Carriage paid. Crate to be returned. Cash with order.—Byron Street, Leicester. r.74

HYBRID NUCLEI, 3-frame brood, 1919 Italian Queens, immediate delivery, £2 10s., carriage paid, and safe delivery. Box, 10s., returnable. Fertile Italian Queens, 12s. 6d.—Goath Cottage Apiary, Chingford. r.75

R.A.S., CARDIFF, JUNE 24-28.—Our 25th time of Showing. Come and see our very latest up-to-date Appliances.—MEADOWS, Syston, Leicester. r.78

IS IT DISEASE, or it is un-natural management? Strong, virile bees will stand a deal of either. Have you found a really immune variety? I doubt it.—CRANE, Daubhill Pharmacy, Bolton. r.49

NUCLEI (3-frame), with 1919 Queens, from Golden Italian Queens, imported direct from Bozalla, 40s. Orders booked July-August delivery. —MOORE, 31, Monmouth Road, Dorchester. r.80

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

STRONG Stocks on eight wired standard frames, brood and stores, 1918 Queen, £4 10s.; case 7s. 6d., returnable; 3-frame Nuclei, 1919 fertile Queens, 37s. 6d.; case 5s., returnable. Orders booked for Fertile and Virgin Queens.—W. WOODS, Normandy, near Guildford. q.121

ITALIAN QUEENS.—Virgins, 3s. 6d. each, 3s. each for 6, by return. Fertiles, 8s. July, 7s. 6d. Aug. (bred from Simmins and Penna's); 4-frame Nuclei, with 1919 Queens, July and Aug., £3, and 10s. returnable for box if returned within 10 days. Guaranteed free from disease. Stamp for reply.—Box 33, B.B.J. Office, 23, Bedford Street, W.C.2. r.75

DUTCH BEES.—Skeps all sold. Several hundred 6-frame Stocks (British standard size frames) coming from Holland. First consignment early June.—WHYTE, Cumbernauld, Dumbartonshire, British Agent for Haus Matthes. r.23

ITALIANS.—Strong Nuclei, 1919 Queens, 3-frame, 37s. 6d.; 4-frame, 50s.; crowded 6-frame stock, 70s.; 8-frame ditto, 90s.; two Swarms Hybrids, 40s. each. Cases returnable.—BOWREY, Swallowfield, Berks. r.57

THREE-FRAME NUCLEI, Italians, 1919 Queens, delivery June and July, 3 gns.; box, to be returned within seven days, 10s.—EVANS, Goath Cottage, Endlebury Road, Chingford. r.25

1919 IMPORTED Golden Italian Fertile Queens.—Orders booked and executed in rotation. Regular supplies throughout the season Price 14s. 6d.; specially selected, 17s. 6d. Cash terms. Stamp for reply.—GOODARE, New Cross, Wednesfield. q.12

STRICTLY BUSINESS.—A copy of "Intensive Bee-keeping" sent free with a 1s. order for Flavine. A Japanned Sprayer 5s., post free.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.123

TO CLEAR.

W.B.C. Ends for brood frames, 3s. gross.
Ditto for shallow frames, 3s. 9d. gross; postage 6d.
Sections, 4¼, two and four-way split and grooved, 100, 7s. 6d.; postage 1s.
Excluders, 2s. 3d. each; postage 6d.
Metal Dividers, for 3 sections, 2s. doz.; postage 9d.
Wood Dividers, 1s. doz.; postage 4d.
List on Application. Established 1878.
WALTON & CO.,
MUSKHAM WORKS, NEWARK.

Italian Queens direct from Italy.

Address:
E. PENNA, BOLOGNA, ITALY.

I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-
Orders are booked in rotation.
Price List on application.

Italian Queens and Nuclei.

5-bar Nucleus and 1919 Italian Queen, 35s.
4-bar Nucleus and 1919 Italian Queen, 45s.
5-bar Nucleus and 1919 Italian Queen, 55s.
We pay carriage, guarantee no disease, and despatch on receipt of order; 10s. must be sent for each box, which will be refunded when box is returned to us in seven days.
ITALIAN QUEENS, with introducing cage, 12s. 6d.
ALLBON, Sunnyside, Hitchin. r.76

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

An Exceptional Offer.

For the evolution of superior bee strains, we have not spared either time, money, or effort. Exceptionally high prices have been paid even for the weakest nuclei (from different parts of the Country) claimed to possess special qualities. These we have mercilessly sifted and only credited strains retained, without prejudice to colour or other secondary qualities.

Again, queens from leading apiarists in two continents have been secured and experimented with, and we have no hesitation now in offering

ADMINSON'S BEE STRAINS

as the finest bee strains available. Carefully selected and scientifically bred they fully represent standard "A" in quality and class "Z" in modern development: the best and the latest.

(1) Adminson's Virgin Queens **4/6** each.

(2) Adminson's Selected and Tested Fertile Queen's **17/6** each.

(3) Three-framed nucleus (a limited number available, only to ex-soldier apiarists) **£2 2 0** Carriage Paid.

(4) Three-framed nucleus with one year's free copies of "*The Bee World.*" **£3 3 0** Carriage Paid.

For travelling box: 10s. deposit, returnable.

Terms:—Cash with order; safe delivery and perfect healthiness guaranteed.

The Bee World.

An international monthly publication devoted to the progressive interests of modern bee culture. Annual subscription: 2/6, post free, payable in advance. First number will appear shortly. Absorbingly interesting, modern, and practical. To ensure regular delivery order your copy at once.

ADMINSON, LTD., Scientific Apiarists, BENSON, OXON.

Bees for Soldier or Sailor.

Some time ago Mr. Ion, of Healing, Lincs., offered through the JOURNAL to supply a nucleus to a deserving case where a man had been serving his country. We hoped others would have followed the praiseworthy example set by Mr. Ion, but up to the present no other offer has been made. Mr. Ion has forwarded the bees as promised, the recipient being Mr. P.J.North, and we publish below the letter of thanks to Mr. Ion. We have several other deserving applicants for the bees, and if any bee-keeper would like to do one of them a good turn by presenting a nucleus or stock we shall be happy to forward an address :—

DEAR SIR,—I have received the stock of bees to-day quite safely. I am very grateful to you for your kindness in sending me such a fine stock to enable me to start again, and shall do my best to increase and build up ready for next season. I felt it hard to lose my bees while I was in the Army, but all have been called on to make some sacrifice. I shall always feel indebted to you for your great kindness in helping me to start again. The travelling hive will be returned to-morrow. —Yours faithfully, PERCY J. NORTH, 9, Charles Street, Romsey Town, Cambridge.

A Bee-Keeper's Appeal.

In response to this letter (9922) in the JOURNAL for June 5, we have received the following amount :—

	£	s.	d.
Amount received ...	£15	10	0

We shall be very pleased to receive further donations.

Re A Dorset Yarn.

We are sure all our readers, as well as ourselves, will be sorry to miss Mr. Kettle's "Yarn" this week, and still more sorry for the reason we have not received one, which the following letter will explain. We are pleased to hear that after so serious an accident Mr. Kettle is progressing favourably. We trust he will soon be able to be among his beloved bees, fruits and flowers again, and to yarn about them for the benefit of our readers.

"I regret to say that Mr. Kettle had a nasty accident last Wednesday. He was cycling along a country road, and came into collision with a motor car that he had not seen approaching, because of a load of hay in the way. He was taken to the Wimborne Cottage Hospital, where Mr. Butson and I visited him this (Sunday) morning. He is very badly bruised and shaken, but progressing favourably. It was a very nasty smash, which I am afraid will take a lot of getting over, even with his splendid physique and constitution. We all hope that he will soon be able to continue his interesting "yarns," which many readers of THE BRITISH BEE JOURNAL eagerly look for and appreciate week by week.

"On our way home we went to see how the county bees were going on. Mr. Butson is still having endless trouble to get the Dutch stocks to take to these Italian queens. He is a bee-keeper of forty years standing, and has imported Italian queens for sixteen years, but never had such trouble before. He does not think that some of these queens can have been fertilised, as this is what happens. He had been daily trying to get two hives to take an Italian queen, for fourteen days, paying special attention that no queen cells were allowed to be drawn out, then I went to help him one evening, and we threw all the bees off the bars on to a board in front of the hive, then liberated the queen, which had been in the hive caged. She flew, but came back and went in with the bees, even then they balled her, so we poured half a teacup of honey over her, gave them some smoke, and left them for the night. All was fairly quiet for four days, then Mr. Butson found a clump of bees on a shrub near the hives, and two Italian queens on the ground right underneath the clump fighting. I am even doubtful whether they are imported Italians, I have never seen such black Italian queens before; in fact, some of them are darker than the Dutch queens we destroy. I am sure that Mr. Butson and I could have reared, and sold to the Government, queens from Penna's strain, more fit to be called pure Italians than these are. Are these so-called Italians direct from Italy? I understand that others are having the same difficulty."—S. A. W. TOMLINSON.

[The queens are imported direct from Italy, from Sig. E. Penna. The following plan for introduction, which has been practised with success by W. Herrod-Hempsall, may prove useful. Instead of putting the cage over the bees, wire cloth downwards in the usual way, place it *on its side* under the quilt, along one of the top bars. Do not remove the paper covering the candy at the end of the cage, but allow it to remain for the bees to eat away both paper and candy.—EDS.]

SWARM PREVENTION.

This is the most engrossing subject in the minds of many bee-keepers during June and the greater part of July. Here is a plan worth trying:—

Give two full depth bodies, and allow the queen the full range of all frames up to the honey flow, when the upper storey should be removed and the best combs of brood given to the lower. The rest of the brood can be given to nuclei, or to other colonies not yet up to full strength. Then place on a shallow frame body temporarily (if working for comb honey), and when the bees are fairly started replace it by a comb-honey super. The idea of using the combed super at first is to get the bees into the habit of going above. The idea of swarm control only outlined is in having a large brood nest up to the beginning of the honey harvest. In other words, there should be so much room that the colony will have no thoughts of swarming. Subsequent conditions should be such as to encourage *work*, *work*, not loaf, loaf, until preparations for swarming are made. A colony that feels cramped just at the beginning of the harvest is liable to get into the swarming mood. Under this management a splendid force of bees should be ready to profit fully by a late flow like the heather.

CONTROLLING SWARMING.

Italians and Carniolans, especially the latter, are great swarmers—our Black bees are not nearly so prone to break up forces right in the middle of the honey flow. In Switzerland they find the same conditions. Formerly Italians were more common in some parts of the Republic, and they had excessive swarming, but since they have eliminated this foreign blood their bees swarm very moderately indeed. It is interesting to find that an apiary of 70 colonies only gave one swarm one year, and the previous season not a single hive swarmed. Eleven apiaries, containing an aggregate of 280 colonies, did not produce a single swarm, and from 1,544 colonies only 90 swarms issued, equal to 6 per cent. In ten years as many colonies belonging to M. Kamer gave only one swarm. It seems as if the Swiss have practically eliminated swarming, and secured a most advantageous characteristic in their native bees. The method by which this has been brought about was to select colonies having the characteristic it was desired to perpetuate and at the same time eliminate those tending the other way. Their bees in this way have become good-tempered, hardy, industrious, and at the same time practically non-swarmers.

MAKING SYRUP.

All brown sugars should be avoided, as they contain ingredients tending to dysentery, only pure cane sugar, in the lump or crystallised form, makes good, healthy syrup. Do not overboil it, as in this condition it is more likely to crystallise in the feeder and so cause trouble. Place it in very warm water, and let the sugar dissolve, then place it on the fire and let it come to the boiling point, but no further. In spring and summer there is no need to heat the syrup at all, but in winter, or rather autumn, it should be given warm. A little salt and vinegar should be stirred in, especially for winter use. I think salt is as necessary for the bees as it is for ourselves, and if we do not supply it they will have to forage for it. Vinegar prevents granulation, and although some discredit its use, I am confident it does good. If the sugar and water are put on to the fire together, keep stirring the mass until the sugar is all dissolved, as if not it will singe, and burnt sugar is not good food for bees. For winter use the syrup should be as thick as two to one, for spring use it would be better half and half, or even two of water to one of sugar. Some, when stimulating, give it as little more than sweetened water—as bees require large quantities of water when breeding is going on.

CLEANLINESS.

Bees are models in the practice of this virtue. An ancient writer says: "They might be a mirror to the finest dames." Did it ever strike you that you can greatly aid them in keeping up their good name? This you can do chiefly by keeping your stocks strong. It is a real pleasure to note how spick and span everything is kept in a powerful colony. On the contrary, when a diseased hive, or even a weakling is opened, you will soon see the result of untidiness. The floor-board is a mass of debris, and the frames a picture of slovenly care; while ten to one the wax-moth is working its sweet will on the combs. All strong stocks hold this pest at bay, whereas weaklings, from want of energy, allow them to find quarters. Note how sweet and clean the frames and hive walls of strong stock are, and what a contrast is presented by the fouled appearance of a dysenteric stock. At all seasons of the year a strong stock shows a cleaner interior, and for this, if for no other reason, weaklings should be tabooed. In the fight for cleanliness and good sanitation you, their keepers, can do much. Everything placed inside a hive should in every way be above

suspicion. Floors should be cleaned twice a year, and overhead packing should never be damp, musty, or unwashed. — D. M. MACDONALD.

Our First Swarm.

Outside, the noonday sun was shining brilliantly; within the cool shades of the college all was silence, the students absorbed in their studies, the day's work in full swing.

In the lecture room, English class was proceeding, the heat and the somewhat rigorous correction of test papers combining to try the students severely.

Suddenly the door was flung open, and a flushed, breathless student bounded in. "Oh Mother!" she panted, "the bees have swarmed, and Rev. Mother wants you to come at once!"

Down went books and pencils, and the class sprang to its feet breaking into an excited babel of talk, and rushed from the room in the wake of the nun, who fled in search of skep, veil, and other necessary appliances. As the news spread through the college more students joined in, and within a few moments of the dramatic announcement everybody was streaming across the lawns towards the apiary.

The swarm had settled on one span of the pergola, which bounds the rose garden, and shouts of excitement filled the air as the approaching students caught sight of the dark mass hanging amid the roses. Close by stood the star of the moment, the lady gardener who had first discovered the swarm and given the alarm: presently, however, the centre of interest changed to the nuns who were directing operations, amid a crowd of interested neighbours, visitors, and students. The former were eagerly offering helpful suggestions, such as the following:—

"You ought to have a warming pan and a key." To which someone replied: "It would be better to put salt on their tails!" Someone else pointed out the inadequacy of the veils, that it was necessary to be enveloped from head to foot; that they had seen swarms hived before (and consequently knew all about it).

"And you ought to wear gloves."

This theory was effectively quelled by a reply that Mr. Smallwood had recommended as little veiling as possible, and entirely disapproved of the wearing of gloves.

"The bees could not sting you just now if they tried."

"Oh, couldn't they!"

"Look at the bees standing on their top feet, that's because they are so full of honey."

At this point it became necessary to restrain the excited students who were crowding round the swarm, talking, exclaiming and gesticulating, to the extreme annoyance of the bees. One enterprising individual had secured a ladder, and, seated on the topmost step, was peering at the swarm and recording her observations of the "sweet little darlings," to the enthusiastic audience below.

The nuns, who had been holding a hasty consultation, despite the contradictory and emphatic council of interested bystanders, now approached, and dispersed the students to a safe distance and ordered the wearing of veils.

Ladders were obtained and placed in position, and two nuns ascended them, one shaking the bees off the pergola as the other held up the skep to receive them, to the accompaniment of cries of excitement from the crowd which surged round the ladders.

A sheet was spread on the ground for the empty hive, prepared to receive the swarm, and the crowded skep was gently lowered to the ground, and propped up to allow ventilation in the orthodox manner.

"Now cover the skep with a veil, and put the whole thing inside the new hive," advised an interested spectator. (Horrified gasps from students who remembered Mr. Smallwood's lecture on the treatment of swarms.)

Fortunately for the bees this advice was not followed: the skep was elaborately shaded from the blazing sun by means of a hammock canopy, gaily striped in green and white, and the hot, agitated crowd withdrew a little to criticise the proceedings, holding fierce arguments on the subject of swarming and loudly advancing theories which would have startled any experienced bee-keeper out of his senses.

One of the students who had secured a copy of the college text-book, "Bee-Keeping Simplified," read extracts aloud, and eventually silenced the discussion. The bees settled down quietly; and as the dinner bell pealed out across the gardens the crowd withdrew to the house, congratulating themselves on their succesful management of the swarm.

Now was the bees' opportunity; they had buzzed, apparently contented, about the skep after the morning's disturbance, until all was quiet. Not a soul was to be seen; all anxiety at rest. Then, in obedience to a preconcerted signal, the swarm issued from the skep, circled joyously round the apiary, and flew towards the house. But, they were discovered—in the act of making for the opposite bank of the river below the college; the alarm was given, and in a moment crowds of frenzied students rushed across the lawns,

banging trays, ringing bells, blowing whistles, clattering tins, and even beating spoons against silver salvers, until these were discovered and swiftly confiscated by a scandalised nun.

A body of energetic students, exerting their whole powers in the effort to make as gigantic a noise as possible eventually daunted the bees, and in order to escape the nerve-shattering din they swerved inland, and finally effected a compromise by settling in a hole high up on the trunk of a tall poplar tree. Here they rested, enjoying the sweets of revenge, while the baffled crowd below walked round and round the tree, gazing disconsolately up at them, expressing their opinion of bees very distinctly and emphatically.

Presently the tallest ladder on the premises was obtained, the skep was fastened to the top of it, and this was run up the tree, the skep being poised immediately above the bees.

The crowd watched and waited in breathless interest as a few inquisitive bees explored the skep, then returned to their companions and settled down peacefully once more.

In despair the students resorted to the smoker, only to realise that the height of the tree and the direction of the wind combined to make this attempt fruitless. The bees had gained the advantage and were determined to cling to it Nothing more could be done, and the students sadly withdrew to the house to continue their ruthlessly interrupted studies, leaving the bees masters of the situation, thinking bitter thoughts of their first swarm, and hoping for "better luck next time."—NOEL MACDONALD WILBY.

(To be continued.)

Notes from South Wales.

At the time of writing there seems to be very little honey coming in, and I am afraid if we do not soon get some rain that the flow will be very poor, everything seems to be parched. I have noticed some Dutch clover that bloomed by the roadside, and has died away for the want of rain; it would do the bees good, as well as the flowers, for they would not need to travel so far for water. I have also noticed that in such dry weather as we have had they are not near so nice to handle, they do not seem to be satisfied as they are when we get a normal amount of rain; and before now I have gone through a stock of bees and taken off surplus when it has been raining slightly, and have not had a sting, so it shows that they like a drop of rain on them at times.

I had a swarm come off yesterday from the stock that I am expecting to get some sections from for the show, and a fine swarm it was. As they marched in again (and the sun was scalding) I had the syringe, and gave them a few doses of water, and by their attitude they seemed quite pleased to feel it, and apart from that they marched in quicker, for they must have thought a storm was coming. I am a great believer in water for them, in a good many respects; if a stock is hanging about wasting time, as they will for days with the swarming fever, just take a pint jug of cold water and throw it right in the entrance. You will be surprised to see the activity among them in cleaning it up, and taking it in the hive, and they are off to the fields after to work, whereas otherwise they would be sulking and doing nothing; I have checked swarming many times in that way. The Dutch bees I have here for the Glamorgan Re-stocking Scheme are doing well, and I have made three nuclei from the skep that was sent, so it may be guessed that they were in splendid condition when they arrived here. I also received one of the Italian queens, and a very fine one she was, and looks full of promise. I had no notice as to her coming, but soon made a nucleus by moving the old skep to a new stand and placing a hive in its place to catch the incoming bees, and they formed the nucleus in quick time. They did not have any brood, so they would have accepted her in a very short time; that is one way in making sure of her being accepted. The other nuclei all had queen cells, and some brood rearing, so there would have been a great deal of chance about their having her, and she looked too good to risk. I am pleased to say that she has started off well, and has got eggs in two combs, so I shall soon start to rear from her (queens I mean), and let some of the nuclei go out, as the subscribers to the scheme seem to be very anxious to make a start with bee-keeping, and one can imagine how long the time seems waiting for them, when the interest is there. Those who have had them and lost them know that it takes time to get them up and head them with young queens, but the beginner thinks different to that, and is looking forward every day to get the bees or hear something concerning them. I think that I should be quite as anxious to get some if I was beeless, although I have kept them a good many years, for to be without bees in summer would be like a summer without any sun. I can fully sympathise with them, and hope that they will all get the bees early so that they will be able to manipulate them before the season closes. There is this advantage about a nucleus, that one can learn how to manage them better than

with a full stock, for there is more room for working, and not so many bees to keep quiet, and the learner can see the queen easier and quicker, for we all want to see the queen first, and we know how difficult it is to find her in a full colony, after years of experience, leave alone the beginner.—E. Boodier, Valley Apiary, Bishopston, Glam.

Another Remedy for "Isle of Wight" Disease.

The following is an extract from the *Bath Chronicle*:—

"Hearing of an unusual development of interest to bee-keepers, a representative of the *Bath Chronicle* visited Mr. Rummings at 60, West Avenue, Oldfield Park, and writes as follows:—I was received by Mr. Rumming, who conducted me to his apiary. To get there it is necessary to pass over a little brooklet of fresh, undefiled water. Pointing this out to me, Mr. Rumming explained that he particularly chose that special position on account of the fresh water for the use of his bees; 'But,' he added, 'not one in a hundred make use of it: they capriciously prefer to fly out of their way to a pool of doubtful water some distance off.' 'I should,' he exclaimed,' especially like you to notice, however, that my bees are in no way affected by this preferment.' Reaching the apiary, my host proudly pointed out to me his five hives, just ordinary wooden structures, made by himself, but wonderfully well kept. I donned a muslin veil and approached the double hive. Mr. Rumming removed the cover and then the super, thus giving me a full view of the interior portion. I was shown the combs in their various stages and fully initiated into the habits of the bee. When I had seen all this hive contained we adjourned to another, which last year contained a nucleus of bees and a queen, which were sent to a prominent Bath lady. The bees contracted the disease, and were condemned by the county expert. Mr. Rumming, called in to see them, offered to take the hive back with him for treatment. In less than three days the bees were completely restored to their normal condition, and are now perfectly healthy. With these facts well in mind we returned to the house for a quiet five minutes' chat, in which Mr. Rumming disclosed to me the history of his experiences.

He is a native of Headington, near Calne, in Wiltshire, but has lived in the City of Bath for over 30 years, 20 of which have been devoted to his precious hobby, bee-keeping. Although the disease has been prevalent for some eight or nine years, it was not until 1913 that Mr. Rumming's hives were effected. In one epidemic he lost the lot, over £30 worth, without being able to do anything to save them. In June, 1914, Mr. Rumming received about a pint of bees and a queen as a gift from a friend with which to restart his hobby. Throughout the winter he fed them up and safely brought them to the spring of 1915, when, alas! they too contracted the fatal disease. Exasperated with his continual bad luck, he decided to make a fight for his hobby, and consequently experimented on them with a medicine of his own invention. Altering the strength of this concoction according to results obtained, Mr. Rumming had the satisfaction of finally discovering a remedy. Having once succeeded, why not again, he argued, and, hearing of another outbreak, he took the matter in hand and quickly restored the afflicted bees back to health. All that is necessary is to paint the front of the hive with the life-saving lotion. The bees are eagerly attracted to it, and those too sick to move are fed by others less stricken. As a further proof of the efficacy of his remarkable cure, Mr. Rumming allowed me to peruse a letter received from a Liverpool gentleman who had also tried his treatment. He writes: 'You will be pleased to know that my two hives of bees are flying freely again. I watched them carefully for some time yesterday, and only saw one crawler.' In placing his remedy on the market Mr. Rumming's whole thought is to save the bees of England from utter extirpation, and it is this alone that prompts him to offer 'Beekure' to his brother fanciers."

[Whether Mr. Rumming has discovered a more reliable remedy than those already on the market remains to be proved.—Eds.]

Kent Bee-Keepers' Association.

LECTURE AT BROMLEY.

The first of a course of lectures on practical instruction in bee-keeping, promoted by the Agricultural Education Committee and held under the auspices of the Kent Bee-keepers' Association, was given at Park House on Saturday. The lecturer was Major C. C. Lord, R.A.M.C., and he delivered his lecture on the lawn at the rear of the house, a hive of bees being placed ready for demonstration. There was a highly encouraging attendance, and great interest was evinced in the subject of the lecture and also in the Major's subsequent demonstration. Mr. A. E. Barnes, chairman of the Bromley district of the Kent Bee-keepers' Association, presided, and among those present were Mr.

A. Dewey (chairman of the Association) and Mr. W. E. Clifford, secretary of the local branch.

Mr. Dewey, introducing the lecturer to the audience, remarked that it was very necessary that they should have a course of lectures, because it would not do for people to secure a stock of bees in the fond hope that the bees would look after themselves. He was pleased to see so many ladies present because bee-keeping was a very suitable hobby for ladies owing to the fact that no great physical strain was put on them, the most exacting work being lifting a hive, which never weighed over thirty pounds.

Major Lord said he hoped that all those who were present would make it their business to attend each lecture, because they were given at the invitation of the Education Committee, and they had to show the committee that the lectures were well attended if they were to have more of the courses in subsequent years, and if the attendance fell off the conclusion they would have to draw was that the lectures were rotten. (Laughter.) Proceeding, he gave a very comprehensive sketch of the life, history and habits of the honey-bee. He compared the old-fashioned and more modern methods of keeping bees, and gave a very lucid explanation of the true functions of the bee in the fertilisation of flowers and in honey production. After referring to the uses of honey, he proceeded to give a detailed account of the races and flora of the bees, and the diseases they were subject to. Some timely advice on how to start—Major Lord advised the beginner to begin with a swarm and not with a stock—was then given, after which the general conditions in Kent were referred to. The local conditions were good, Major Lord said; Kent was the Garden of England, and consequently the honey-flow was tremendous. He himself had had a yield of 180 pounds in one hive in a season, but forty to sixty pounds was a satisfactory yield.

On the proposition of the chairman a vote of thanks was passed to the lecturer, after which a demonstration was given.

The secretary of the local branch of the K.B.A. is Mr. W. E. Clifford, 63, Southlands Road, Bromley Common.

Beverley and District Bee-Keepers' Association.

The inaugural meeting of this Association was held in Beverley on May 22. After the rules and purposes of the Association had been discussed, Mr. W. J. Algar, of Lockington, was elected president; Mr. T. T. Taylor, Beverley, secretary and treasurer; and the following members as a committee:—Mr. T. Richardson, Mr. H. Chapman, Mr. A. Gray, Mr. J. H. Walgate, and Mrs. G. Scott. On the motion of Mr. G. Featherston, the following resolution was adopted:—"That in consequence of the serious losses of bees through 'Isle of Wight' disease in this district, this Association request the East Riding County Council and the British Bee-Keepers' Association to do all in their power to help forward such legislation as will prevent the spread of this disease." The membership is now thirty-five.—*Communicated.*

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Are the Honey Bees Dead?

[9931] Permit me to reply to Derbyshire-bred." First, let me say I do not like replying to a *nom de plume*, because there always appears something in the background, to like hitting below the belt.

Why is there a decline in the entries? Because in former years honey was cheap, and it paid to save a little of the best for showing; now honey is fetching big prices, and we cannot afford to keep it. He also says, one great detriment is often found when a prominent old member continually "swipes the board." I say, don't be downhearted. A person with one or two hives has the same chance of winning a prize as the one with many, providing he has the knowledge. Let him take my tip, and visit shows. I will give two cases of my experience. My first Royal Show was Birmingham with bees; my hive was not according to the schedule; I was beaten. I vowed I would beat the 1st prize exhibitor first time I met him again, and I did. The same thing at the Derbyshire Show. I was beaten in the cottage trophy by my friend Howard. I repeated the same vow and succeeded next time.

He also says "the greatest difficulty is found when there is suspicion of unhealthy transactions between exhibitors in various parts of the country"; he also says,

"members are at great pains to produce their best, and then get defeated with produce that has not been produced in the county, disappointed exhibitors are turned into disgusted exhibitors." No doubt this happens all over the country; two such cases have been brought before the D.B.K.A. Committee and warned. The head officials of the D.B.K.A. are gentlemen who have been to great pains to encourage young and old, big and little, to exhibit, offered good prizes for heather honey—the Peak of Derbyshire is rich for heather honey—yet no exhibitors come. They have offered good prizes for those that have never won a 1st prize at the County Show; I myself have offered two medals for these classes, but it has never been claimed. Nothing would give me more pleasure than to see the D.B.K.A. and their annual show a great success, but there must be more unity. Committee meetings are attended by about six, annual meetings eight or ten; that is not very encouraging. Why do a few members "swipe the board"? as "Derbyshire-bred" calls it. The Derbyshire Challenge Cup is given for points, the Gold Medal at the Royal is also for points. Now every old exhibitor puts in every entry he can to win those prizes, and it is such exhibitors that keep the shows going. Would you, Mr. Editor, or any other secretary, reject a member's entries because he sends in eight or ten? Certainly not. — J. Pearman, Derby.

Direct Entrance to Supers.

[9932] Some of your correspondents would like a direct entrance for bees to enter the supers, so I should like to tell them about my bees entering their home by more ways than one. I made my hives with telescopic lifts, so when they are in summer position there is an overlap of 1½ ins. If the telescopic lift is allowed a bit of extra space, and a piece is cut out of the rests which are nailed inside to support it in the summer position, the bees can crawl up the front of the hive, under the telescopic lift, and enter the super, which should have a ⅜-in. entrance. There would be no direct draught into the supers as the 1½ in. overlap would prevent that. The piece cut out of the rest should be about 2 ins. long, and it is advisable to keep this by you to replace in case of troublesome wasps and other pests, which would probably use this way for their raids. It may be argued that the bees would get up in between the supers and outer casing, and build comb, but if plenty of room is given inside, they appear to be all right. At least mine have not strayed from the inside. I work 11 frames in each brood-box, and give the queen 22 frames to roam about on, supering with another box of 11 standard frames. This method of using all standard frames keeps the hive cool, and retards swarming. As each brood-box and "brood-box super" has an entrance cut out, there is plenty of ventilation. My idea is that bees want plenty of fresh air to keep them free from diseases. A friend asked me to look at his bees, as they seemed to be on strike. I opened the hive, and found there were only four combs with bees on, and the brood cappings were slightly indented, and a few perforated, just showing the heads of white bees. I drew one out and it appeared lifeless. Can you tell me the cause of this, and the remedy? [We cannot say, possibly they were chilled, an overdose of, or crude, naphthaline will cause the death of the larvæ.—Eds.] To make a bee-way over frames when packing down for winter, I think a clearer-board placed on the hive, and covered with the quilts or straw, would answer the purpose better than strips of wood placed across the frames. The bees would have practically the whole of the top bars to roam over, and the bee-keeper would know where to find his boards in the spring-cleaning time. Fresh air and sunshine are Nature's disinfectants, and therefore a preventative against diseases. I quite agree with W. T. F. that a chemist's shop is not required for bee-keeping.—C. Hazell.

Re Braced Combs.

[9933] The experience I have just had with a new large stock I received in May may interest some of your readers. On arrival of stock I placed it alongside the hive till I hived them. To my dismay I found the combs badly braced together, and it meant tearing them gently apart. I saw the queen was breeding, so I took some of the old torn combs out, replaced with new ones, and fed up hard. All went well, so I placed a Rymer board over the frames. On my next inspection the bees had drawn out the new combs, and were busy bringing in pollen of all colours. One fine day, about 3 p.m., I saw a large number of bees outside the hive, a lot of crawlers, just as if the "Isle of Wight" disease was there, the symptoms were almost exact. I picked up some of the crawlers on the grass, and found them cripples, wings too short, drones with two wings, bees long and hardly any wings. I said to myself, "Broken brood combs." I sprayed the lot with Bacterol, and put a little in the syrup, also on the alighting board. The whole stock looked the picture of health, after I stopped the feeding I opened the hive. All combs came away quite easily,

wax nice and white, and a lot of honey, plenty of room between the combs and combs repaired. I put on a super, they were up in it next day, and there were no more crawlers. I put this down to braced combs, and I find the Rymer board a great boon. I believe in plenty of air. A Swiss entrance, I think, is a wonderful invention. I also give a certain amount of air in winter, as then one does not find bees paralysed after the comatose state. In their natural state they got a good deal of air.

The stock is now quite healthy, and I see young bees coming out for a flight, with a nurse bee who seems to see them off after being well licked all over and given a push. I am certain some would have thought it was "Isle of Wight" disease, had they not examined these cripples.—CYRIL TREDCROFT, Lt.

Identification of Insects.

[9884] Having on two occasions found some small species (apparently) of the wasp tribe suffering from "Isle of Wight" disease, I send some healthy specimens of the same sort for your inspection, as it seems to me possible they may be the cause of disease making its appearance in apiaries in isolated places.

We are quite three miles from the nearest bee-keeper, but disease has twice —from some inexplicable cause—made its appearance when bees were in perfect health, and completely wiped them out.

Last summer one of these small wasps was found crawling in our garden, showing unmistakable symptoms of "Isle of Wight" disease, so was at once killed and burnt; all alighting boards of hives were sprayed plentifully with Bacterol twice daily for several weeks, and we had no disease.

Having been a bee-keeper for only four years, I feel great diffidence in appearing to offer an opinion on such a difficult subject, but it seems to me that by keeping watch for disease in my insects, and disinfecting freely while bees are still healthy, many stocks might be saved, and if "Isle of Wight" disease can be carried to bees by other insects one manner of its spread may be explained.—A NORTHERN BEE-KEEPER.

REPLY.—The insects sent were all wild bees. The two dark bees with light-coloured bands across the abdomen are *Colletes Daviesiana*. The one with yellow band, looking like a small wasp, is *Nomada sexfasciata*. The large bee is one of the *Halictus*, but cannot determine what variety it is from specimen. The genera *Colletes* and *Halictus* may usually be found in communities, and as a rule burrow into the ground. The *Colletes* will also use the mortar-joints of an old wall, or clay banks when the material is soft enough for them to burrow. We have seen numbers of them using the clay wall of an old "mud and stud" house.

The *Nomada* (or "cuckoo bees") are parasitical on other bees. From their colouring resembling that of wasps, they are also known as "wasp bees." These bees do not construct their own cells and store them with pollen, but watch their opportunity and deposit their eggs on the pollen stored by another bee, generally one of the *Andrenida*. The larva of the parasite consumes the food, and the legitimate occupant starves.

Swarm Deserting Brood.

[9885] If you could give me an explanation of the following bee behaviour, I should esteem it a great favour as I am quite puzzled, having always understood that bees never leave brood.

I had a swarm of Italian hybrids on Saturday last, and as the swarm settled near the hive I wished to put it into, I emptied it into the hive straight away, but it came out and settled again, so I hived it in a skep, and in the evening put it into the hive again. Next day the bees started work as usual, and were all right until Wednesday, when I noticed that there were not many bees about, so I opened the hive when, much to my surprise, I found all but about 200 bees gone away. They had drawn out four combs in which there were eggs, pollen, and honey, but the bees had gone. I may say that I had given them a frame of brood on hiving them and what bees were left were on these. I saw no trace of the bees swarming out, and nobody has seen a swarm in the neighbourhood, so I do not know quite what to make of it.—W. R. A.

REPLY.—It is not safe to say that bees will *always* do some things or *never* do others, but to keep in mind that "bees do nothing invariably," nor is it always possible to give a reason why they behave in an untoward manner. It is very seldom that bees will desert brood as detailed by our correspondent, and we are sorry we are unable to give a reason for their doing so. We have known a swarm return to the parent hive, leaving brood, if the queen has not been with it, but as comb had been drawn out and eggs deposited in it, the queen was evidently present in this instance.

"HYBRID ITALIAN" (Soberton).—*Swarm deserting hive.*—We cannot say why bees will do this. Generally, a comb of brood will induce them to stay, though this is not always effective—see Queries and Replies on previous page. A feeder full of syrup will also help to persuade a swarm to settle down, and should be kept going for a week. In the case of the swarm that came out and returned to the hive nine times, the queen either did not come out with it, or she returned to the hive on each occasion.

"EX-COLONIAL" (Gloucester).—*Transferring bees overseas.*—(1) It is possible to convey bees overseas. (2) We should say spring. (3) We should prefer stronger wood than ½-in. thick for travelling box; ¾-in. would be better, with perforated zinc over entrances and top of frames as suggested when travelling to and from the ship. When on board the top should be covered with a calico quilt and two or three pieces of carpet or felt. (4) When on the ship they should be kept in a cool chamber where the temperature is about 40 degrees Fahr.

E. G. T. (Royden).—*Using fermented honey.*—You might boil it, but the flavour will be spoilt. Better use it for making mead or vinegar.

"MELLIS" (Birkenhead). — Native or Dutch, probably the latter. Cutting out queen cells will check swarming. Give more room as well, but nothing you can do will prevent some Dutch bees from swarming. They will do it if the hive is only half full of comb, and we have seen a swarm commence queen cells three days after hiving.

G. L. WELLS (Anerley).—The insect is a beetle, known as the wasp beetle.

J. MCLEAN (Durham).—One of the Andrena.

Honey Sample.

"KING'S HEATH" (Birmingham).—So far as we can tell it is honey, mostly from Hawthorn.

A. E. WARREN (Bletchley).—A very nice sample, both in colour and flavour, but there was something in the latter whose source we were unable to determine.

Suspected Disease.

"COTTAGER" (Houston).—"Isle of Wight" disease. You might try one of the advertised remedies.

"KILTS" (Retford).—"Isle of Wight" disease.

"KING'S HEATH" (Birmingham), "ABACED" (Yorks), A. JACKSON (Thetford).—We do not find disease in the bees.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

June 24 to June 28, at Cardiff.—Royal Agricultural Society's Show, Bee and Honey Section, under the direction of the B.B.K.A. Prizes arranged in groups of counties for Associations affiliated to the B.B.K.A. Schedules from The Secretary, 23, Bedford Street, Strand, W.C.2. **Entries closed.**

July 8, 9, 10 and 11, Highland and Agricultural Society, at Edinburgh.—Exhibition of Bee Appliances and Honey.—Particulars from John Stirton, Secretary, 3, George IV. Bridge, Edinburgh. Entries closed.

July 23, Wyke and Normandy Horticultural Society Flower Show.—Open Classes for Section and Run Honey. Section honey prizes, 5s., 3s., 2s.; run honey (1919), 3 1-lb. glass jars, prizes, 5s., 3s., 2s. Entrance fee, 6d.—Hon. Sec., H. S. Mumford, Heatherside, Normandy, near Guildford.

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Monday and Tuesday, August 18 and 19, Cannock and District Horticultural Society, at Cannock.—Classes for Honey and Wax. £12 in prizes and medals (Open Classes).—Schedules from John Bird, F.R.H.S., "Glenmay," Cannock.

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries close August 30.**—Apply to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

SEVERAL Stocks of Hybrid Italian Bees on 6, 8, and 10 frames, from 60s. to £5 per stock, 1919 Queens. Had no disease in apiary since started, 12 years ago.—WHITE, 68, Vancouver Road, Forest Hill, S.E.23. r.82

FOR SALE, 330 split and grooved Sections in flat, 2 lbs. Section Foundation, cut squares, 52 Wood Dividers, 24 Tin Dividers, 3 Racks for sections, one fitted sections and foundation, all new, £2.—ROBINSON, 23, Towngate, Leyland, Preston. r.83

STRONG Italian Hybrid Nucleus on four frames, guaranteed healthy, 40s.; box 10s., returnable.—BROWN, "Beechwood," Wantage, Berks. r.85

SWARM of Bees for Sale, 35s.; also a few Virgin Queens, 2s. 6d.—CONROY, Market Place, Chorley, Lancs. r.86

CHAPMAN Honey Plants, 1s. dozen, 5s. 100, free; large, strong plants.—B. PEARSON, Shalbourne, Hungerford. r.87

STRONG 4-frame Nucleus for Sale, 47s. 6d., carriage paid; return box. Geared extractor wanted.—FURBANK, 1, Whitefriars Road, King's Lynn. r.88

DUTCH-ITALIAN, gentle, healthy, prolific, Nucleus, 4 frame, 50s.; 8-frame stock, £4; Swarms from 25s. Boxes returnable.—REV. STURGES, Brize-Norton Vicarage, Bampton, Oxon. r.89

FIVE-FRAME Stock of Italian Bees, 55s.—15, Kelvin Avenue, Bowes Park, London, N.22. r.84

ROBIN HOOD, expert, wide experience all branches, queen, nuclei, honey, hive-making, poultry; open engagement; big money not asked; prefer one building up apiary.—GRIFFITHS, 8, Newburgh Street, Amble, Northumberland. r.90

ITALIAN Bees, 1918 Queens, £5 per stock.—GREEN, Winterley, Sandbach. r.91

JUNE Swarms, on frames, ready now, £2 each; box free.—TIDD, Stanhoe, Norfolk. r.92

ITALIAN Hybrids, 1919 Queen, strong, on five frames, 45s.; guaranteed healthy.—REDDIE, Cliff Cottage, Leigh, Essex. r.93

BEES.—Few stocks of good strain, £4 4s.; four frame lots, 50s.; boxes, 10s., returnable; spare Queens, 8s. 6d. each; all ready for immediate delivery.—UNDERWOOD, Station Road, Cooknoe, Northants. r.94

SURPLUS Queens for sale, fertile, 1919 hybrids, 7s. 6d.; pure Italian virgins, 4s. 6d.—ASHWORTH, Heytesbury, Wilts. r.95

SEVERAL good double-walled hives, 20s. and 25s. each; drawn out shallow frames of comb, 4s. doz., etc.—Particulars to L. T. CURTIS, The Limes, Holbeach. r.96

FOUR Swarms of bees for sale, good working strain, 40s. each; boxes free; carriage forward.—A. CURTIS, Templemarsh Road, Addlestone, Surrey. r.97

GUARANTEED pure light English Honey, 28lb. tins, £2 12s. 6d. each. Sample 4d.—GEORGE THOMPSON, "Beecroft," Helpringham, Sleaford. r.98

BEES for sale, moderate prices.—CHABEEL, Teignmouth. r.99

BOOKS wanted, Cheshire's Vol. I. and II., cloth editions of Cowan's "The Honey Bee," "Wax Craft," "British Bee-keepers' Guide Book," other works on bees would be considered; must be in good condition.—GRIFFITHS, Solway House, Silkmore, Stafford. r.100

FOR SALE, two 1918 Hybrid Queens, prolific, healthy, 7s. each.—CROWE, The Manse, Merriott, Crewkerne. r.101

NUCLEUS Italian Hybrid for sale, 6 bars, £3 5s.—C. BRYAN, 5, Urban Road, Kirkby, Notts. r.102

SIX Surplus Stocks of Bees, on 8 frames, in good condition, ready for supering, 10s. 6d. per frame, cash with order; carriage paid; boxes returnable.—ARTHUR DONKIN, Naunton Beauchamp, Pershore, Worcs. r.103

WANTED, Driven Bees, five or six lots, end of July or early August.—GREEN, Sweep, Ripley, Derby. r.104

TWO new W.B.C. pattern hives for sale, 21 in. by 21 in., ⅝ in. materials, painted; brood box, shallow box, and section rack, calico roof; cash, 50s. each.—Apply, SYD BARNWELL, 44, Western Road, Strood, Kent. r.105

BEES.—30 stocks or nuclei, 3 to 18 frames, headed by this or last year Penna Queens; also 3 spare Penna Queens, arriving July 6; no disease.—MIDDLETON, Bournevale, Aldridge, Staffs. r.106

FEW surplus 1919 Queens, Penna's Italian strain, 7s. 6d.—MOORE, Goathland, Tower Road, Bournemouth West. r.61

WANTED, stock and goodwill of genuine small country business, in good bee district.—Particulars to Z., B.B.J. Office, 23, Bedford Street, W.C.2. r.62

FOR SALE, several W.B.C. hives, new condition, 30s. each.—ELLIOTT, Whitebrook, Monmouth. r.65

FOR SALE, surplus appliances, three well painted Hives, zinc roofed, £1 each; four new Skeps, 3s. each; two Feeders, 4s.; Foundation, 3s. lb.; Dixon's Skep Section Rack, 5s.; built-out Frames, 3s. 6d. dozen; Candy, Embedder, etc. List for stamp. — TOWNSEND, Brougham Street School, Skipton. r.7

THE Cambs. "Skyscraper" Hive, as illustrated in "Let the Bees Tell You," will be ready for delivery by clover blossom. Specifications and prices sent to anyone interested.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.124

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

SELECTED Italian Virgin Queens, Penna's strain, 3s. 6d. each, or 3s. each in lots of six, upwards; strong 4-frame Nuclei, £3 3s. each. Safe arrival guaranteed; carriage paid; cash with order.—E. W. D. MADOC, Mattishall, Dereham. r.19

DUTCH BEES.—Skeps all sold. Several hundred 6-frame Stocks (British standard size frames) coming from Holland. First consignment early June.—WHYTE, Cumbernauld, Dumbartonshire, British Agent for Hans Matthes. r.23

STRICTLY BUSINESS.—A copy of "Intensive Bee-keeping" sent free with a 1s. order for Flavine. A Japanned Sprayer 5s., post free.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.123

BEES THAT ARE VIRILE, hardy, and splendid workers. Can still book a few more 3, 4 and 5-frame lots for July delivery, £2 15s., £3 10s. and £4 4s.; carriage extra. Boxes to be paid for if not returned promptly. Well stocked with bees and brood, with young queens, will build up to strong stocks inside three to six weeks. Fertile Queens 12s 6d., July, August.—CRANE, 235, St. Helens Road, Bolton. r.107

1919 FERTILE Italian Queens, finest strain obtainable, large number now ready, 12s. 6d. each.—Goath Cottage Apiary, Endlebury Road, Chingford. r.108

1919 GUARANTEED Imported Fertile Golden Italian Queens.—Now having regular supplies, can despatch at very short notice. 14s. 6d. each; selected, 17s. 6d.—GOODARE, New Cross, Wednesfield.

ITALIANS.—Strong Nuclei, 1919 Queens, Penna's strain, crowded 4 frames, 45s.; 6 frames, 60s.; guaranteed healthy.—FARROW, Garage, Staplefield Place, Handcross, Sussex. r.109

BRITISH BEES; deposit system.—Box 34, BRITISH BEE JOURNAL Office, 23, Bedford Street, W.C.2. r.110

STRONG STOCKS on eight wired standard frames, brood, and stores, 1918 Queen, £4 10s., case 7s. 6d.; 3-frame Nuclei, 1919 fertile Queen, 37s. 6d., case 5s.; both returnable.—W. WOODS, Normandy, near Guildford. r.111

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

R.A.S., CARDIFF, JUNE 24-28.—Our 25th time of Showing. Come and see our very latest up-to-date Appliances.—MEADOWS, Syston, Leicester. r.78

TO CLEAR.

W.B.C. Ends for brood frames 3s. gross.
Ditto for shallow frames, 3s. 9d. gross; postage 6d.
Sections, 4¼, two and four-way split and grooved, 100, 7s. 6d.; postage 1s.
Excluders, 2s. 3d. each; postage 6d.
Metal Dividers, for 3 sections, 2s. doz.; postage 9d.
Wood Dividers, 1s. doz.; postage 4d.
List on Application. Established 1878.
WALTON & CO.,
MUSKHAM WORKS, NEWARK.

Italian Queens direct from Italy.

Address:
E. PENNA, BOLOGNA, ITALY.
I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-
In May the queens dead in the journey have been less than 4 per cent.
Orders are booked in rotation.
Price List on application.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE. 28a, Moy Road, Cardiff.

LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford Road, Luton, Beds.

HIGHLAND SHOW

EDINBURGH, 8-11th JULY.

£4,500 IN PRIZES

Horses, Cattle, Sheep, Goats, Pigs, Poultry, Wool, Bee Appliances and Honey, Dairy Produce, Implements and Machinery.

PARADES OF CATTLE AND HORSES, GREAT JUMPING COMPETITIONS.

Forestry Exhibition, Agricultural Education, Butter Making Competitions, Wool Demonstrations.

ADMISSION—Tuesday, 8th July, 7/6 Wednesday, 5/- Thursday, 3/- (after 5 p.m., 1/6 Friday, 2/-. Children under 12, Thursday and Friday, 1/-

Season Tickets, 15/- each.

Invalid Service men in hospital uniform admitted free to Show and Stand. Holders of Society's Long Service Medal admitted free to Show.

John Stirton, Secretary.

HIGHLAND & AGRICULTURAL SOCIETY, 3 GEORGE IV. BRIDGE, EDINBURGH.

The 1919 Season

The disappointment of this season lies in the great shortage of bees despite Government assistance, and in spite of the splendid re-stocking efforts of County Associations. On the other hand, the redeeming feature is the favourable weather, the ever-increasing popularity of bee culture, and the better endeavours to breed bees of higher standard than hitherto adopted. We are doing our utmost in the face of great difficulties both to relieve the serious shortage of bees in Great Britain as well as to eliminate degenerate strains.

The fancies of colour and of ambiguous names are disappearing; and varied bee strains, whether pure or crossed, are getting their full merits from actual experience, through selection and testing, and not from theoretical considerations.

The majority of these strains are capable, when carefully bred, of equally deserving the highest respect, when their full advantages and disadvantages are balanced together. We are endeavouring therefore, without the slightest prejudice, to regenerate neglected strains, and we have no hesitation in offering:

ADMINSON'S BEE STRAINS

as the finest available. They represent standard "A" in quality and class "Z" in modern development: the best and the latest. Their prime feature is not that they are Italian, Dutch, or Native, for any of these strains are practically worth nothing when improperly bred, but that they are **ADMINSON'S BEES.** A mark of the highest reputation in itself.

(1) **Adminson's Virgin Queens** ... **4/6** each.
A limited number available; only those bred under the swarming impulse are offered, after an average rejection of 25 per cent.

(2) **Adminson's Fertile Queens** .... **17/6** each.
(Tested and Selected).

(3) **Strong stock on six combs** (4 of which contain brood); carriage paid; with free copies of "THE BEE WORLD" for one year Less 10 per cent. discount to members of the "Apis Club" and to ex-soldier apiarists. **£5 5 0** For travelling box: 16s. deposit returnable.

TERMS:—Cash with Order; all bees are guaranteed to leave our hands in perfect health. Orders completed at a week's notice (weather permitting) from date of receipt of order with price and deposit. Criticisms and advice cordially welcomed.

ADMINSON, LTD., Scientific Apiarists, BENSON, OXON.

Telegraphic Code: A.B.C. 5th Edition.

Use of the Deposit System.

We have received a letter, printed herewith, from one of our readers, which shows the advantage of insisting on the deposit system when dealing with strangers. We have pointed out aforetime that in the case of prepaid advertisements it is not possible to make inquiries as to the *bonâfides* of every advertiser. We are always grateful if anyone will give us information as to unsatisfactory dealings on the part of advertisers, so that we can, if circumstances warrant, refuse them the use of our columns, which we shall do in this case. We received a deposit from one prospective purchaser on behalf of the same advertiser, and a few days later we had a request for the return of the money as the advertiser refused to deal under the deposit system. After reading this letter we were not surprised at the refusal. It was to meet just such cases as this that the system was established.

"DEAR SIRS,—Having lost my bees ('Isle of Wight' disease) I was anxious to make a fresh start, and wrote to an advertiser in the BRITISH BEE JOURNAL, and booked three swarms, two for myself and one for a friend. I was told by the seller that I was the first applicant, and would get the first swarms. I paid for them when booked. In due course the first swarm arrived, weight 2 lbs. 6 ozs. I did not like the look of queen when I hived the bees, and three or four days after saw her out on a mating flight, as there was not a single drone in the swarm, and no bees at all in the district, it was a poor look-out. I wrote, saying this swarm was practically, under the circumstances, worthless, and I should have to get a queen or unite the bees left to the next swarm,' and I expected him to help me out. But before I had a reply the 2nd and 3rd swarms arrived, weighing respectively 3¼ lbs. and 2 lbs. 8 ozs., the latter also with a virgin queen. I united the first lot with the second, and they are going on all right. The queen of the third lot is not yet fertilised (June 12), but as there were a few (about half a dozen) drones, she may do so. The one united swarm has cost me £3 7s. for just over 5½ lbs. of bees. The seller refused to do anything, says he did not guarantee first swarms, and we were lucky to get one out of the three; he only said we would get the first swarms he sent out, he keeps the others himself. Do you think this is honest and fair? It would have quite discouraged a new starter who had got the first swarm when he found them dwindling away. Don't you think a protest from you might do good? I have been once bitten, and shall be twice shy."

The Royal Show.

We are pleased to report a successful Show at Cardiff. So far as bee-keeping is concerned, the exhibits were not quite so numerous as one would have liked to see them; this was no doubt due to the unfavourable weather of the last few weeks. Since the fruit blossom was over there has, in most localities, not been enough forage for the storing of surplus. Several competitors were in consequence unable to exhibit in classes for which they had entered.

The appliance classes were again staged not for competition. The manufacturers who staged these are to be congratulated, not only on the quality of the goods, but on the public spirit displayed in exhibiting at the present time. It has been a tax on their resources at a very busy time, and the difficulties of transport have been no light matter.

The bee tent, as usual, has been well patronised, and good audiences have listened to the lectures.

A larger number of candidates than usual presented themselves for the preliminary examination. This is a good sign, and shows that bee-keepers are desirous of making themselves as efficient as possible.

The judges were Miss M. D. Sillar and Mr. T. W. Cowan, the duties of stewards being efficiently carried out by Messrs. C. J. Wiltshire, B.Sc., and F. Gravil.

The following is a list of awards:—

Classes 1 to 4.—Appliances, not for competition: A certificate of merit was awarded to each competitor.

Class 5.—Any appliance not previously awarded a prize. No entry.

Classes 6 to 9 were confined to members of the Glamorganshire Bee-keepers' Association.

Class 6.—Four sections. No exhibits.

Class 7.—Four jars light honey. No award.

Class 8.—Four jars medium coloured honey. 1st, Mr. C. Spiller, Cresta, St. Fagans, Cardiff; 2nd, Mr. F. Gravil, 11, Ninian Road, Cardiff.

Class 9.—Collective exhibit. No exhibits.

Class 10.—Twelve sections. No exhibits.

Class 11.—Twelve jars light honey. 1st, Mr. J. Birkett, Blundell's Lane,

Rainhill, Lanes.; 2nd, Mr. R. Hancock, 1, Railway Terrace, Roggiett; 3rd, Mr. J. Pearman, Penny Long Lane, Derby.

Class 12.—Twelve jars medium or dark honey. 1st, Mr. L. Morgan, Underwood, Portskewett, Chepstow.

Class 13.—Six jars granulated honey. 1st, Mr. J. Pearman.

Class 14.—Twelve sections. 1st, Mr. G. Bryden, Star Hill, Rochester; 2nd, Mr. W. J. Goodrich, 2, Oxford Street, Gloucester.

Class 15.—Twelve jars light honey. 1st, Mr. W. J. Goodrich; 2nd, Mr. G. Bryden; 3rd, Mr. H. E. C. Carter, 73, St. John's Park, Blackheath.

Class 16.—Twelve jars medium or dark honey. 1st, Mr. G. Bryden; 2nd, Mr. A. E. Warren, Simpsons, Bletchley.

Class 17.—Six jars granulated honey. 1st, Mr. G. Bryden; 2nd, Mr. W. J. Goodrich.

Classes 10 to 13 were confined to the Northern Counties, and Classes 14 to 17 to the Southern Counties.

Miscellaneous, Open Classes.

Class 18.—Three shallow-frames of comb honey. 1st, Mr. G. Bryden; 2nd, Mr. W. J. Goodrich.

Class 19.—Six jars heather honey. 1st, Mr. M. J. Lamboll, Liddinghurst, Chiddingfold, Surrey; 2nd, Mr. W. Dixon, 27, Central Road, Leeds; 3rd, Mr. J. Pearman.

Class 20.—Six jars heather mixture honey. 1st, Mr. J. Pearman.

Class 21.—Best and most attractive display of honey. 1st, Mr. G. Bryden.

Class 22.—Two pounds beeswax, in two cakes only. 1st, Mr. J. Pearman; 2nd, Mrs. E. M. Heath, Barr Hill, Bewdley; 3rd, Mr. W. J. Goodrich; H.C., Mr. G. Bryden.

Class 23.—Three pounds beeswax, in form and package, suitable for the retail trade. 1st, Mr. J. Pearman; 2nd, Mr. W. J. Goodrich.

Class 24.—Honey vinegar, one quart. 1st, Mr. G. Bryden; 2nd, Mr. J. Pearman; 3rd, Mr. W. J. Goodrich.

Class 25.—Mead, one quart. 1st, Mr. G. Bryden; 2nd, Mr. J. Pearman; 3rd, Mr. W. J. Goodrich.

Class 26.—Exhibit of an interesting nature. 1st, Mr. H. E. C. Carter.

Class 27.—Exhibit of a scientific nature. No entries.

The W.B.C. Memorial Gold Medal was won by Mr. G. Bryden with 23 points.

Erratum.

The heading to Mr. J. Peaman's letter, 9931, on page 166 last week, should have been "Are the Honey Shows Dead." "Bees" was printed instead of "Shows."

Notes from the West.

Under this heading, about the end of March, I poured out my "tale of woe" in these pages—how I had lost all my bees through "Isle of Wight" disease. To-day I am changing to a major key, and intend giving my experiences in re-starting.

There is something lacking to the true bee-man in a life without bees. The coming of spring, with its early flowers, the songs of the birds, and the sight of all around him in nature swelling forth into new life, all add to his conviction that the harmony is not complete. There is one note missing in the great organ, which to him would complete the chord—the hum of his bees.

I had been in this state of semi-contentment for two to three years, but felt I could stand it no longer, if bees could possibly be kept alive in the district. I therefore decided in the autumn of 1917 to start again in the spring of the following year, and in order to start on a fair footing considered it my first duty to see that my course was all clear. All my own hives had long ago been scorched and thoroughly disinfected, so I went about the countryside where I knew bees had once been kept to see that no sources of danger were left about. Most of the hives I came across had received no attention since the bees had died in them, but were just carried into some outbuilding out of the way. This was better than leaving them out in the open, though showing that their owners' enthusiasm had died about the same time as their bees. Re-starting to them seemed hopeless, so they made no preparations for any future work with bees. I found, however, that a gardener in the district—whom I referred to in a previous article—had one hive standing out in the open. I knew he had lost his bees in 1915. He was not in when I called, but his better half gave me permission to inspect the hive. When I went up to it and was about to remove the roof, I was much surprised to see a few bees going in at the entrance. I must admit, too, that the sight of those live bees gave me great pleasure at that moment. I gently removed the roof and corner of quilting, and found about four seams of bees between combs which seemed to have been thrown anyhow into the hive. In the evening I went over again, to see the "bee-master." He did not know the hive was occupied with bees, and he had often fully intended moving it into an outbuilding. We examined the hive together. Most of the combs were leaning one on the other in close contact, and the bees had made a good job of fastening them together with brace combs where the

space did not allow of a passage. Metal ends were put on the top bars where they were missing, projecting pieces of comb cut off with a sharp knife, a top bar split and the ends bevelled to form a winter passage over the frames, and all wrapped up snugly ready for winter. They had enough stores to last them till about February.

I was now in a fix, and doubted if I would be wise in spending money on a stock, or a nucleus, while these bees were in the neighbourhood. They were a stray lot which must have travelled a long distance, and taken possession of a hive in which the bees had died two years previously. All the bees in the district had gone under about the same time with the "Isle of Wight" disease. The owner said that some animals which had got into the grounds had upset this particular hive, and he thought the bees in it might have died from exposure and not disease.

He did not know much about bees, and cared less, so I suggested to him that I should take charge of them for him on condition that if successful in saving them I should have a share of the spoil, but if they succumbed after my efforts that he should share the loss with me. The greatest difficulty ahead was the sugar for feeding. He had no time nor inclination for bee-work, and hinted that I should buy the bees and take my chance with them. I was quite agreeable, but as my "chance with them" under the circumstances mentioned was not a very bright one I was not prepared to pay the market value of even a three-frame nucleus for them. At the same time I was anxious to have possession of those bees, as they were now the only stumbling-block in my way to re-start. If they developed the disease, I could then soon put an end to their existence, and prepare to start afresh during the coming season with no other bees for miles around me. To cut it short, I made him an offer for them, and he immediately "jumped at it." Indeed, he seemed surprised that I had made him such a liberal bid, and in February (of 1918), after a cold spell, the bees were moved into my apiary.

Here they received all the care and attention that an expert bee-keeper, with modern methods and preventives, could give them, and during the poor season they did very well indeed. They were artificially increased to three stocks, and from the parent stock I took some surplus honey which more than covered the first cost of the bees. The three stocks wintered safely, one of them in a fairly strong condition and the other two in splendid order, and with a little help, in the shape of a comb or two of hatching brood from its stronger neighbours, the weaker stock was soon worked up into normal strength. All three are now strong and vigorous, headed by 1918 queens, and ready for work in the supers whenever the weather permits.

I should mention that these bees are British, as nearly pure as we can now hope to have them, are in a perfect state of health (both adult bees and brood), and are such as would compare very favourably with any foreign varieties now so much boomed as "disease resisters."

I could have written these notes months ago, but thought it better not to "holler" too soon. But now, after surviving two winters and two springs, you will, I am sure, agree that I am justified in saying that *Nosema apis* is not to-day the formidable enemy it was a few years ago, when bee-keepers were absolutely helpless in their attempts to cure or prevent the disease.

I hope, too, that my experience will be the means of giving heart to other CAREFUL BEE-KEEPERS who may have lost all their stocks, but are undecided whether to start again.—T. ALUN JONES, Halkyn, Flintshire.

Over-worked Queens.

Mr. Stich's ideas are not very clear. The question is, can a queen be overworked? I believe not. A very prolific queen will lay, it is true, an enormous number of eggs, but will require to be replaced often—at least in theory. My most prolific queen last season was allowed to remain for this season, and has done quite well, though not as well as last year.

I do not think disease is confined to frame hives. Where is the proof? If this disease is unknown in U.S.A., what is the meaning of the article on page 134 "A.B.C." by Root? or does Mr. Stich think this is a separate and distinct disease?

I quite agree that annual re-queening goes a long way to keep all kinds of disease in check. But then we all re-queen annually, don't we?

Is it certain that No. 5 is correct? Can anyone substantiate this?

Mr. Simmins also says "the yearly renewal of queens and persistent use of medicated food." He also says: "The stored honey should, as far as possible, be removed, not that this may be a source of danger, but because the careful owner must make up his mind to feed his stocks with efficiently medicated syrup."

Now here I should like to say that I have for some years followed Mr. Simmins' advice, with the result that I have been

free, not only from bee paralysis, but from all other diseases as well.

I know that it has often been contended by your correspondents that feeding with sugar instead of honey is injurious, and likely to induce disease. I can only say that I feel perfectly certain that if your afflicted readers would only do as Mr. Simmins advises, and extract all possible stores, and feed solidly with syrup, medicated efficiently with, say, Izal, and requeen each year, we should hear far less of "Isle of Wight" or any other disease.

Mr. Stich's No. 9 has no value, as it is quite clear to anyone that until modern methods came in very little *would* be heard of disease, or, indeed, of bees at all.

Will Mr. Stich explain why, because the queen is so prolific as to be able to lay huge quantities of eggs, her offspring should suffer from "senile decay"? Please let me point out that when one speaks of "forcing" the queen, this is only a term of speech, and means a very different thing from forcing, say, a hen by special food. A queen bee is fed in a perfectly natural way, *always*, and the "forcing" simply consists of providing the opportunity for her to lay well.

One more word. Mr. Stich says the professional queen rearer has no need to "force" his queens. I am not a queen rearer in a way of business, but I know that queen rearing, and producing nuclei, which usually go together, are most exhausting processes, and a man doing this will have more occasion by far to force his queens than a mere honey producer. Late in the year it is with great difficulty that the drone hives are kept up, as these are, of course, queenless.

I am sending you a copy of an extract from the *New Zealand Fruit Grower* for March, which may interest your readers.

Does it not strike you that the prizes offered for honey at the "Royal" are altogether inadequate. No wonder there are few entries.—R. W. Manley.

[The prizes for honey at the Royal Show, or, for that matter, at any other show, are not large, but we feel certain very few, if any, bee-keepers compete just for the value of the money prizes. The chance of the honour of winning a prize, especially at the premier show of the country, is enough incentive to anyone to compete, and the prize card is, in the winner's estimation, of more value than the amount of cash won. We venture to say there is not a prize offered that would compensate the winner for the time, trouble, and expense of showing, and is not intended to do so. The same may be said of other competitions beside those for honey.—Eds.]

Extract from N.Z. Fruit Grower.

It is now 13 years since "Isle of Wight" was first brought officially to the notice of the Board of Agriculture, when Dr. Simms' report was published.

Dr. Maldon's report was published in 1909.

Later still (1911) no less than five were appointed to investigate the disease, a report of which was published in 1912, and a further report July, 1913. Yet, after all these reports, the two last of which cover 180 pages, nothing of a practical nature has been undertaken by the Government to compel the carrying out of such measures as were recommended.

The result to-day is that the "Isle of Wight" disease is about as rampant as ever it was, and until drastic measures are taken by the legislature for its suppression, will remain so.

British bee-keepers still potter with numberless drugs to cure their bees; but the only benefit that results is reaped by the sellers. When one drug has had its vogue for a while without good and permanent result, another new one takes its place for a time, and then another, and so on.

It is really surprising that British bee-keeping is allowed to continue in the condition it is in, while thousands of tons of honey are imported annually into Britain.

The scarcity of sugar in Britain during the war, and the tremendously large importation of honey to help fill the gap has apparently drawn the attention of the authorities once again to the importance of bee culture, and it is to be seen whether better results will be brought about by the new appointments than heretofore.

The bee-keepers themselves, and their representative journal, are chiefly responsible for the backward condition of bee-keeping in Britain.

The views of the few progressive bee-keepers which have appeared in their journal have been swamped by others of sheer ignorance and selfishness. What can be expected when one of their chief and regular and presumably paid contributors was allowed to extol immovable comb hives in the shape of common straw skeps? Even in the latest issues the skep is praised, while complaints of the ravages of disease appear in every issue. It is natural for the two to go together.

[It is a pity the writer of the above did not make himself more conversant with conditions and methods here before committing himself to writing. We take it the last two paragraphs refer to the B.B.J., and as to the first, we are quite content to leave to our readers' judgment the statement that we are responsible in any way for "the back-

ward condition of bee-keeping in Britain," and we have yet to learn that even New Zealand can give British bee-keepers any points. His presumption that any of our contributors are paid is entirely wrong, and quite on a par with the other statements.—Eds.]

Do Bees Sacrifice Themselves?

Our esteemed friend, Mr. J. J. Kettle, in one of his articles, puts in a very convenient form of words a statement which is supposed to be true by most bee-keepers.

He said, that when subjected to disease the bees will try to get out into the air, they seem to know they are tainted, and all want to get away from their homes, so that those that are sound will not run the risk of infection. If that is so, it shows that they are self-sacrificing little creatures. It is a well-known fact that, becoming unable to fly on the approach of age or disease, or by accidental injury, they are most determined in turning their backs on home and going into the wilderness to perish. This seems a most lovable trait, and is often written about, and, taken in conjunction with the way in which, when the major part of a hive is becoming helpless with disease, the others will strain all energy in bringing in fresh stores to stave off disaster, has earned the respect of all thinking bee-keepers. It is a theme for kings and commons, and for poets to put into beautiful form of words, for not only in isolated cases do they sacrifice themselves, but in thousands they go out, apparently for the good of the community.

It seems akin to sacrilege to advance facts to prove the motive of why they do this. Such glamour surrounds the subject that to draw aside the curtain seems a pity. But what is the truth?

It is that they are remorseless little Socialists; their own needs make the laws; will they not rob without mercy a weaker colony than themselves, and their autumn treatment of the drones is an orgy of murder. They appear unconcerned in the presence of dying bees, and will drag a crippled one out of the hive and roughly tumble it down the sloping entrance board on to the ground to perish; and if a bee is crushed in our handling of the hive, it is anger that is aroused by the scent of the crushed bee, and not pity for the dying one, for, if possible, out it goes, alive or dead.

What actuates a man to sacrifice his life for another is love—"for greater love hath no man than he should lay down his life for his friend." It is doubtful if such an ennobling emotion as love is felt by bees. It may be that affection is felt by them, but their domestic arrangements are so peculiar that it does not give much help in judging them. Where in certain animals affection and even love may be felt between a mother and her offspring, their system of occasionally "balling" the queen makes me think affection may be very strained in their case, and still finer between the nurse bees and young ones.

Bees seem utterly without mercy on themselves, as witness the way they seem to sacrifice themselves on their companions in the hive in dragging them out to perish; on their weaker neighbours, in robbing them; on the drones in doing them to death, and on the queen when it suits them.

These are a dreadful array of facts which are well known, and still we assume them capable of a noble system of self-sacrifice for the good of the community!

On the other hand, when angered they are brave to a fault, and if left alone will not, in general, go to make trouble. At other times they are subject to fear. Smoke and the scent of carbolic they fear, and also their own hive mates they fear under certain circumstances. Fear and necessity are what actuate their lives to the greatest extent. It is necessity that compels them to kill the drone when becoming a drag on their resources, to rob a weak colony, to keep the hive clear of dying bees, and finally on themselves to go out to perish. The drones are killed because they use their great strength to keep in the hive in spite of the workers, but their worker sisters are subject to a high sense of fear. A damaged bee will not, under most circumstances, try to enter the hive; it will not face the guardian at the gate, and if suddenly pounced on by one will stand like a whipped dog awaiting judgment: if favourable it will enter, willing to live, but if otherwise will scurry away from home and the lions across its path. Thus fear compels it to sacrifice itself; the same fear actuates those that are ill or damaged inside. There is no mercy for them, which they know; no sustenance, no help, and no pity, so if their legs will carry them, away they go, with fear as a companion and hope far behind, and if unable to walk they are dragged out.

In studying these facts I am compelled to come to the conclusion that, in general, a willing self-sacrificer does not exist. It appears that when a bee becomes weakened by disease it is unable to help itself from being trod underfoot, loses its hold on the comb, and then falls to the hive floor, where those who keep the hive clear of damaged bees and who hold the power of life and death deal with it, and when once it is ejected it never willingly re-

turas. They know what is expected, and perhaps not much is needed to send them out. They know no return is possible, for it is extremely difficult to get them again near the entrance, and they would not show such signs of panic if they had left it willingly.

Fear is what causes a queen to rush out if she escapes the process of balling. She does not go to commit suicide, for she will enter another hive to engage in royal combat with the queen in possession. These are conclusions drawn from hive and ordinary working conditions. If a hive is slack for want of a queen, damaged bees often have no fear, and may be persuaded to enter. Young bees may come out of the hive for their first flight in a doubtful state, and unable to fly; but providing they become able to fly they return, as they were not driven out. Bees under "Isle of Wight" disease seem to go for a cleansing flight; being unable to fly and eject that which is troubling them, they scurry about, making short hops, until exhausted, when they die. Sprayed with a mist spray, they may become able to fly, and then return. The power of flight seems, in many circumstances, the hall-mark of health. Bees after a distressing journey may desire the open air; bees revived after chilling may return even in a crawling state to the cluster.—F. B. CHARLTON, Stockton-on-Tees.

Scottish Bee-Keeping Appointment.

Lieut. L. McD. Thake, whose home is at Bran End, Stebbing, Essex, has been appointed assistant instructor in bee-keeping under the Edinburgh and East of Scotland College of Agriculture, and has taken up his duties there. He began his bee-keeping work with Mr. F. W. L. Sladen, late of Ripple Court Apiary, near Dover, and now chief apiarist, Dominion of Canada Department of Agriculture. He joined his Majesty's Forces at the outbreak of war, and served as a lieutenant in the Highland Light Infantry.

Bee-Keeping Revival.

The scheme of the Board of Agriculture for the re-stocking of our apiaries is making satisfactory progress. The Board's bee expert has just completed an inspection of the re-stocking apiaries in Cornwall, Norfolk, Middlesex, Hereford, Northants, Bucks, Lincoln and Devon, and it is encouraging to learn that the imported colonies of Dutch bees have settled down and generally are doing well.

The Gloucestershire Bee-Keepers' Association.

With the happy return of more peaceful conditions the Association is awakening to renewed activities. One of the chief objects of associations should be the establishment of friendly relationship among the members, and with this end in view, as well as the educational advantage of being able to hear a most useful and helpful address by Mr. E. J. Burtt on "The Treatment of Nuclei," a goodly number of members of the G.B.K.A. accepted the most kind invitation of their President—H. Dent Brocklehurst, Esq.—to visit Sudeley Castle on Saturday, June 28. That most important factor in all open-air gatherings—the weather—was kind. It was fine, though cold, and a glorious old ruined tithe barn provided shelter from the wind during Mr. Burtt's address.

A practical demonstration of the opening of a hive, the search for and finding of the queen, was given, and then a most excellent tea, kindly provided by Mr. Geoffrey Dent Brocklehurst, was much appreciated—many of the members having come considerable distances.

After tea, the party was taken over Sudeley Castle, with its priceless collection of works of art, and the church, where lie the remains of Katherine Parr—wife of Henry VIII.

It was truly a red-letter day, and hearty were the thanks given to the President for his kindness.

It is hoped that other outings will be arranged in different parts of the county, and that meetings with a short talk on some interesting topic may take place in the winter.

The Hon. Secretary is most anxious to establish local centres in connection with the parent Association, in order that bee-keeping may be put on a truly scientific and remunerative basis.

When one thinks of the enormous amount of honey which is imported into this country, and realises that England can produce the best honey in the world, it seems high time that active steps should be taken to bind bee-keepers together, and so to educate them that our home production may be greatly increased and wider knowledge gained both in production of honey and wax, and in the combating of disease, which has played such havoc with the craft during the past few years.

The Hon. Secretary, the Rev. E. J. Bartleet, Quedgeley Rectory, Gloucester, will be pleased to hear from any one in the county interested in bee-keeping, who is willing to undertake office in a local

centre, and will be most grateful for such help.

It is pleasing to be able to record that the County Council are taking up this branch of food production, with its enormous value in the fertilisation of fruit trees and other crops.

We must congratulate one of our members, Mr. Goodrich, on obtaining eight prizes out of nine exhibits shown at the Royal Show at Cardiff.—EDWARD J. BARTLEET, Hon. Secretary.

The Bournemouth Bee-Keepers' Association.

Two short lectures and demonstrations with bees were given by the Rev. G. Field, of Throop, at the Bournemouth Horticultural Society's Summer Flower Show on June 24 and 25.

The lectures were given in a separate enclosure, to which a charge of 3d. was made, and the proceeds were forwarded to the Mayor's Fund for wounded soldiers. There was a good attendance of spectators, upwards of 300 people paying for admission. Standard and observation hives and other appliances were also shown by Mr. S. Gidlow, Mr. F. W. Moore and other members of the Society, and much interest seemed to be centred in the varied exhibits.

It is thought that if similar "side shows," which are undoubtedly of a highly interesting and educational character, were given by Societies generally at their local horticultural and agricultural shows much may be done to stimulate the revival in bee-keeping now taking place in this country.—H. E. FLEAY, hon. treasurer, Bournemouth B.K.A.

East of Scotland Bee-Keepers' Association.

The annual summer conference of this Association was held on Saturday last in the grounds of the Dundee Training College at "The Mains." The day was fine, and a large company assembled to discuss bee-keeping matters and to hear an address on "Rapid Increase of Stocks" by Mr. G. W. Avery, of the Edinburgh College of Agriculture. The lecture was followed by a short discussion, and a number of questions were asked by members of the audience.

James Malloch, Esq., Director of Studies at the Training College, presided at the lecture. A hearty vote of thanks was given to the lecturer and the chairman, who suitably responded. Tea was served on the lawn, and the company afterwards wandered through the well-kept gardens and admired the great variety of flowers, fruit and vegetables, and also the very nice apiary, which is very successfully managed by the head gardener, Mr. Duncan.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

My Difficulties as a Bee-Keeper.

[9934] After fifteen years' experience with bees, I state my difficulties in the management of them. I have done fairly well during those years, but believe would have done better were it not for these drawbacks. Of course, I am acquainted with the ways suggested in bee-books to overcome these difficulties, but am short of patience to follow their instructions. If some of your readers would explain ways more excellent, myself, and possibly a number of other bee-keepers would be greatly assisted.

(1) Every spring I lose a few colonies by their becoming queenless. They are all right up to March, then I watch the robbers, and it is an infallible sign that the colonies they attack are without queens. When a fine day comes I open them, and find them strong in bees, but broodless. Queens over two years of age are apt to fail to re-start laying after their winter sleep. I know that I should re-queen them in the autumn—but to remove the supers and hunt for the queen, and insert a new one, and replace the crates, for I live in a heather district, is more than I can do. I have neither time nor patience for the job.

(2) I find that some colonies require a lot of coaxing to work in supers in the spring, and some that are not to be coaxed in any fashion. They come up through the excluder in warm weather in some hives, but in other hives the openings in the excluder are filled by wax and propolis, and then they prepare for swarming. How to start them? Of course if I stored unfinished frames and inserted them in spring in the supers, very likely they

would start working; but, I have no suitable storing room and it is too much trouble. Mice sometimes run over the stored combs in search for a cell damp with honey, and their smell makes the combs unacceptable to the bees.

(3) I winter bees on full set of combs. I never open a brood-box if I can help it, and then I find that the outer combs get mouldy and brittle by spring-time, and bees pull them down and build new ones, which takes a lot of time, and wears the bees considerably. If I were to winter them on six frames with dummies both sides all the combs would be in good condition; but then what is to be done with the surplus combs with patches of honey and pollen? Is there a way to keep the full set of combs dry in the brood-box during winter?

Bees give me a great deal of pleasure and some profit, and should not like to be without the "little pets" for anything.—"Gwalia."

[We shall be pleased to hear if our readers have any suggestions to make. We would remind our correspondent that if anything is to be made a success, both time and patience are needed. This applies forcibly to bee-keeping, and judging by the tone of his letter are the two things he most lacks.—Eds.]

Appreciation from a Returned Soldier.

[9935] With reference to my letter which you kindly published in one of your recent issues, my estimation of the British Bee Journal as a help to exchanges between bee-keepers, was far too modestly expressed, for I have had offers of no less than 40 stocks, swarms and skeps in reply.

Whereas I thought bees were scarce I am relieved to find that the situation is otherwise.

Now I cannot buy all the bees offered, but hope to take three of the lots (and I have already sent you the deposit for one of these), and for the remainder, if anyone wanting bees at moderate prices cares to communicate with me I shall be happy to send them a typewritten list of the addresses where they may be had as offered to me. I should like, if possible, to repay the trouble they have been to me in sending me these offers, and I am replying individually besides.

One lady in the Lake District wrote me a most charming and sympathetic letter, and very kindly offered to interview a local bee-keeper on my behalf—quite in the ancient spirit of bee-keepers before the profiteering days came upon us. I hope to get some Italians through her interest—but imagine anyone nowadays going to such trouble quite gratuitously and of sheer good nature!—Walter Camm, 191, High Street, Smethwick, Birmingham.

Dealing with Swarm in a Skep.

[9886] I hived a 4-lb. swarm from a distance on June 12 last, putting them in a largish skep. Could they transfer themselves to a bar frame hive this summer? When might this be done? Any information would oblige.—G. G., Honiton.

Reply.—We are afraid the bees will not be able to transfer themselves to a bar-frame hive this summer. If the skep is now quite full of comb you might try it, as you have a longer season than the more northerly parts of the country. Another method would be to "drive" the bees, and tie as much as possible of the comb containing brood into frames. Each frame used should be quite filled with comb, cutting pieces to fit, and the whole made as secure as possible with three or four tapes tied round from top to bottom. It would be an awkward, messy job, and the combs rough and uneven, so they would need replacing with foundation next season. We think you had better leave the bees in the skep for the winter, and transfer them to a bar frame hive as early as possible next year.

Hornets *v.* Bees.

[9887] There are a considerable number of hornets in this neighbourhood at the present time, apparently queen hornets. I seldom visit my bees without a hornet buzzing around me, they also enter my house and alarm the household. I assure the household that the hornets are quite inoffensive if left alone, and have hitherto raised my voice against the destruction of their nests on account of the good I know they do in feeding on many insects which are a pest to other creatures. Also I do not like destroying so handsome an insect. The Rev. J. G. Wood states that they are very fond of wasps, and I am alarmed that they may be fond of bees as well, else why are they about my hives? I observed one yesterday evening threatening to enter one of the hives. I hope to observe further

in this matter, meanwhile, I shall be glad of information, which may also be of interest to other bee-keepers, as to whether the hornet is an enemy to the bees and the bee-keeper?—(Rev.) Harold Buckton.

Reply.—The hornet is one of the enemies of bees, but fortunately they are not very numerous, or on account of their size and strength they would probably do much damage. We do not think they will molest anyone unless they go near to, or disturb the nest.

Combs from Other Hives.

Trial of a System of Keeping Two Queens in a Hive.

By F. W. L. Sladen, Apiarist, Dominion Experimental Farms.

The bees at the Central Experimental Farm, Ottawa, have produced an annual average of 121 lbs. of honey per colony, spring count, during the six years 1913 to 1918, showing bee-keeping to be a very profitable undertaking here when carried on by those who understand it and give the bees the right attention when they need it. The figures from the Experimental Farms at Nappan, N.S., and Lethbridge, Alta., are also high, and had these apiaries been under continuous expert care like the one at Ottawa, they would probably have produced about the same returns.

The high yield at Ottawa was due, primarily, to the large number of warm and fine days and good average rainfall in spring and summer, the good soil in the neighbourhood and the continuous covering of snow in the winter. It was due, directly, in the main, to the fact that these conditions are very favourable for the growth, nectar secretion and survival from year to year of alsike and white clover, the principal sources of the honey, and also to the remarkably long and favourable period for breeding bees from the time the snow disappears in mid-April until the honey flow from these clovers begins at the end of June.

A careful study of the conditions at Ottawa shows that the ordinary methods of bee-keeping do not make full use of this breeding period, and that a still higher yield could be obtained were means to be devised that would do this and that would reduce a heavy loss of bees that takes place in the winter.

In regard to loss in winter, very few colonies died outright during the winter, but many lost about half of their bees. An important cause of this loss was ascertained to be stores that were more or less unwholesome and granulated. In some years the loss was high, in others only moderate, and individual colonies varied much. The experiments showed that the clover honey was more wholesome for wintering than honey gathered later in the season. A certain amount of loss in winter was also due to an insufficient number of young bees raised during August.

In regard to the breeding period in spring, colonies that passed the winter with comparatively little loss became strong enough to swarm during the honey flow from dandelion at the end of May. This swarming interrupted the breeding of bees. Although it could usually be prevented by destroying all queen-cells every week, the time soon came when the queen reached the limit of fecundity, and before long the amount of brood raised every day ceased to increase.

Another, and in some ways the greatest, problem at Ottawa has been the control of swarming. This has become a problem of labour to a great extent. After the first rush of swarming during the dandelion flow, there is a check during a honey dearth, more or less, that occurs in June, after which swarming reaches its greatest intensity during the honey flow from clover in July. The swarming season lasts altogether for about nine weeks, from about the end of May until the beginning of August. No single manipulation such as giving more room for the queen to lay, or raising brood to the super, will prevent swarming at Ottawa, but it has been prevented by destroying all the queen-cells every week for about nine weeks. This is a great labour, and not always effective. Indeed, the principal labour in the apiary has been preventing swarming by lifting heavy supers of honey off the hives and searching for and destroying all queen-cells every week. If swarming is permitted, not only is the honey crop reduced because the forces of the bees are divided, but the apiary has to be constantly watched to prevent the escape of swarms, a considerable disadvantage when the bee-keeper has out-apiaries to attend to. There is, therefore, a great need for a sure method of preventing swarming without much labour.

The writer has attempted to meet these different requirements with a system of keeping two queens in each hive during eleven months of the year. This system has been tried on a small scale during the season of 1918. The trial has shown the system to be workable, and preparations have been made for a more extensive test in 1919, not only at the Experimental Farm, but in the open country, some distance from the city.

Two young queens separated by a

double wire-cloth screen were wintered in one hive in the cellar in 1917-18. During the honey flow from dandelion the bees and queen on one side of the screen were transferred to a separate hive; thus the desire to swarm at this time was not allowed to develop, and there was an uninterrupted and steadily increasing production of young bees from the two queens, with the result that two strong colonies were obtained in time for the opening of the honey flow from clover, the number of bees produced much exceeding the number that was obtained in hives that began the season with only one queen; 480 lbs. of honey were produced by the bees of the double colony.

In order to prevent swarming during the clover honey flow, and to again get two young queens in each hive (all the following stages were carried out in several colonies) the old queen was removed from the brood chamber at the commencement of this honey flow, and eight days later all queen-cells were destroyed except two, one on each side of the wire-cloth division then inserted. A special portico fixed in front of the hives separated the entrance of each half of the hive from that of the other by about nine inches, to prevent the queens that emerged from the cells from meeting after returning from their mating flights. No swarming took place.

The annual requeening in this system ensures against the loss that occurs in many apiaries due to old and worn-out queens; it is also the correct treatment for European foul brood, the most destructive disease of bees in the Ottawa Valley. In the experiments, queen-cells containing Italians of selected parentage were substituted for those raised in the colony, except in a few cases.—From the *Agricultural Gazette of Canada*, Vol. vi., No. 2, February, 1919.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

July 8, 9, 10 and 11, Highland and Agricultural Society, at Edinburgh.—Exhibition of Bee Appliances and Honey.—Particulars from John Stirton, Secretary, 3, George IV. Bridge, Edinburgh. Entries closed.

July 23, Wyke and Normandy Horticultural Society Flower Show.—Open Classes for Section and Run Honey. Section honey prizes, 5s., 3s., 2s.; run honey (1919), 3 1-lb. glass jars, prizes, 5s., 3s., 2s. Entrance fee 6d.—Hon. Sec., H. S. Mumford, Heatherside, Normandy, near Guildford

Wednesday, August 13, at Wye.—Kent Honey Show. 30 Classes, half of which are open to the United Kingdom. Valuable Cups and Prizes. —Schedules from Alfred Lepper, Wye, Ashford. **Entries close August 6.**

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Monday and Tuesday, August 18 and 19, Cannock and District Horticultural Society, at Cannock.—Classes for Honey and Wax. £12 in prizes and medals (Open Classes).—Schedules from John Bird, F.R.H.S., "Glenmay," Cannock.

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries close August 30.**—Apply to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

IN NORTH LONDON.—Three good 4-frame Nuclei, 50s. each; one Artificial Swarm, 6 frame, £3 10s.; one Colony, 10 frames, £4 10s. All Hybrid Italians.—Box 35, Bee Journal Office, 23, Bedford Street, W.C.2. r.112

A FEW surplus 1919 Queens for Sale now, Hybrid, 7s. 6d.; Italian (Penna's strain), 10s. 6d. Also at end of July, 8 or 10-frame Stocks, headed by 1918 and 1919 Queens, 8s. per frame, plus queen 7s. 6d. or 10s. 6d.—ASHWORTH, Heytesbury, Wilts. s.2

GEARED EXTRACTOR, Observatory Hive and Honey Ripener. For prices, etc., enclose stamped, addressed envelope.—JACQUES, Walsall Road, Lichfield. s.3

GOOD SWARM (taken June 22) in small, sound Hive, Excluder, rack of Sections, and Smoker, £3 10s.; also Taylor's No. 7 Hive, nearly new, excluder, and new rack of fitted shallow frames. £2.—EDWARDS, "Oatlands," Brentwood Road, Romford. s.4

BEES, Simmins' strain, on 10 frames, with Hive, £7; also 40 sections of Honey, £5 10s.—GREEN, New Dale, Wellington, Salop. s.5

FOR SALE, several gross screw-cap nominal pound Honey Bottles, 45s. gross; also a quantity of Crocks for honey, 14s. gross; about 50 clean 14-lb. lever-lid Tins, eight in crate, 5s., used once, carriage extra; sample tin, 9d. stamps.—PARTRIDGE, 174, South Ealing Road, Ealing, W.5. s.7

FOR SALE, four Brood Chambers and three Shallow Supers, some soiled, two Super Clearers with Porter bee escape, 23s.; Burgess Glass Quilt, with feed hole, plate glass, 3s. 6d.; single wall Cottage Hive, 8s. What offers for Taylor's Swarm Catcher, unused, Brice Swarm Appliance, four Wilkes' Aluminium Feeders?—MORRIS, 13, St. John's Road, Putney Hill, S.W.15. s.8

WANTED to buy, Small Holding with Cottage in good bee country. Would buy established healthy Apiary.—Write, A. C. A., B.B.J. Office, 23, Bedford Street, W.C.2. s.6

ITALIAN HYBRIDS.—Two strong Stocks, on eight frames, well filled with brood and store, guaranteed healthy, £3 10s. each, carriage paid; boxes 7s. 6d. extra, returnable. Deposit system if preferred.—MAY, South Nutfield, Surrey. s.9

IMMEDIATE DELIVERY.—Four-frame Nucleus, Hybrid Italians, two guineas, and half guinea (returnable) for box.—JOHN W. PRICE, The Outlook, Barming Heath, Maidstone. s.10

FOR SALE, contents of Apiary, 100 Hives, 2,000 Frames, half new, 5,500 Sections, new, 10 large Travelling Crates, 150 lbs. Foundation, several gross screw-top Jars, numerous Racks, Clearers, etc. Offers wanted. Stamped envelope for particulars.—WISBEY, Apiary, Whittlesford, Cambs. s.11

FOR SALE, two Stocks in frame hives, complete with shallow frame boxes, with shallow frames and foundation, £5 each, good strain, 1918 and 1919 Queens; also Geared Honey Extractor, fine condition, 40s. Owner going abroad.—47, Brodrick Road, Wandsworth Common, S.W.17. s.12

FOR SALE, 11 Stocks of healthy Bees on 10 frames each, hives included. What offers for lot?—E. PRIME, Duddenhoe End, Saffron Walden, Essex. s.13

W.B.C. HIVE for Sale, new, painted, with brood box, and two shallow racks, guaranteed healthy, price 30s., carriage forward; also two Stocks of Hybrids on eight frames, £4 4s. each, and 5s. deposit on boxes, returnable.—Apply, M. C. REED, Primrose House, Heacham, King's Lynn. s.14

FOR SALE, Hybrid Bees, healthy, 10-frame stock, also Nucleus, 5 frames, with hives, smoker, etc. First £10, or nearest offer.—J. ADAMS, 117, Brookvale Road, Witton, Aston, Birmingham. s.15

HIGH-CLASS Belgian Hares, five months, two does, one buck, will make winners, 7s. 6d. each; pure Belgian Hare Doe, in kindle, 12s. 6d., or exchange for bees or pure-bred Scotch Terrier (young).—JOLLY, 99, Toller Lane, Bradford. s.16

FOR SALE, Nucleus on six combs, 55s., or on four combs, 45s., carriage paid. Cash with order. Deposit of 10s. on travelling box required, which will be returned on receipt of box in good condition.—Box 35, B.B.J. Office, 23, Bedford Street, W.C.2. s.17

STRONG, healthy Stock with ten standard frames, hive and lift, 1919 fertile Queen, £6 15s., carriage paid; 3-frame Nuclei, 1919 Queen, 37s. 6d.; case 5s., returnable.—W. WOODS, Normandy, near Guildford. s.19

BEES.—Six Stocks Italian and Hybrids, already supered in good wood hives, a bargain; open to inspection; the lot complete £40.—Apply, BLACK, Lawn Road, Uxbridge. s.20

JUNE Swarms, on frames, ready now, £2 each; box free.—TIDD, Stanhoe, Norfolk. r.92

BEES.—Few stocks of good strain, £4 4s.; four frame lots, 50s.; boxes, 10s., returnable; spare Queens, 8s. 6d. each; all ready for immediate delivery.—UNDERWOOD, Station Road, Cooknoe, Northants. r.94

BEES for sale, moderate prices.—CHABEEL, Teignmouth. r.99

THE Cambs. "Skyscraper" Hive, as illustrated in "Let the Bees Tell You," will be ready for delivery by clover blossom. Specifications and prices sent to anyone interested.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.124

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

SELECTED Italian Virgin Queens, Penna's strain, 3s. 6d. each, prompt delivery, safe arrival guaranteed; very strong 4-frame Nuclei (three frames brood, 50s. each, carriage paid; box 10s., returnable.—E. W. D. MADOC, Mattishall, Dereham. s.18

CAN spare a few 6-frame Stocks, headed by Italian Queens, very prolific, £3 3s.—URIAH WOOD, Arnold, Notts. s.1

STRICTLY BUSINESS.—A copy of "Intensive Bee-keeping" sent free with a 1s. order for Flavine. A Japanned Sprayer 5s., post free.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.123

1919 GUARANTEED Imported Fertile Golden Italian Queens.—Now having regular supplies, can despatch at very short notice. 13s. each; selected, 16s.—GOODARE, New Cross, Wednesfield.

QUEEN Rearing and rapid increase Outfit, with British and American instructions, 15s. 6d. Swarming impossible with our right up-to-date appliances.—MEADOWS, Syston, Leicester. q.122

TO CLEAR.

W.B.C. Ends for brood frames 3s gross.
Ditto for shallow frames, 3s. 9d. gross; postage 6d.
Sections, 4¼, two and four-way split and grooved, 100, 7s. 6d.; postage 1s.
Excluders, 2s. 3d. each; postage 6d.
Metal Dividers, for 3 sections, 2s. doz.; postage 9d.
Wood Dividers, 1s. doz.; postage 4d.
List on Application. Established 1878.

WALTON & CO.,
MUSKHAM WORKS, NEWARK.

Italian Queens direct from Italy.

Address:
E. PENNA, BOLOGNA, ITALY.

I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-

In May the queens dead in the journey have been less than 4 per cent.

Orders are booked in rotation.

Price List on application.

Aberavon Horticultural Society.

SECOND ANNUAL SHOW of Honey, Fruit, Flowers & Vegetables,

14th AUGUST.

FOUR OPEN CLASSES FOR HONEY.

3 1lb. Jars Light Honey.
3 1lb. Jars Granulated Honey.
3 1lb Sections
2 Shallow frames Honey.

Over £50 offered in Prizes for various other Classes.

Entries Close 7th August. F. O. RICHARDS, "Nythfa," Aberavon.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . In a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

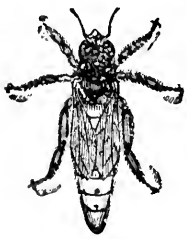
NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON-ROWE, 28a, Moy Road, Cardiff.

ITALIAN QUEENS



Direct from Italy.

Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.

For 1 Fertile Queen: July, Aug., Sept., 12 -

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remittances of the readers of "B.B.J." and "B.K.K." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

HIGHLAND SHOW

EDINBURGH, 8-11th JULY.

£4,500 IN PRIZES

Horses, Cattle, Sheep, Goats, Pigs Poultry, Wool, Bee Appliances and Honey, Dairy Produce, Implements and Machinery.

PARADES OF CATTLE AND HORSES, GREAT JUMPING COMPETITIONS.

For stry Exhibition, Agricultural Education, Butter Making Competitions, Wool Demonstrations.

ADMISSION—Tuesday, 8th July, 7/6; Wednesday, 5/-; Thursday, 3 - (after 5 p.m., 1/6; Friday, 2/-. Children under 12, Thursday and Friday, 1/-

Season Tickets, 15/- each.

Invalid Service men in hospital uniform admitted free to Show and Stand. Holders of Society's Long Service Medal admitted free to Show.

John Stirton, Secretary.

HIGHLAND & AGRICULTURAL SOCIETY, 3 GEORGE IV. BRIDGE, EDINBURGH.

Seasonable Hints.

At this time of year those bee-keepers who are situated in clover districts are usually busy taking off surplus. This year owing to the very unfavourable weather there is not only an entire lack of surplus honey, but many colonies, especially small ones, are not even getting enough to keep going, and have to be fed. Nuclei especially should be looked to, and it is safe to say that all will need feeding until warmer weather comes, if they are to become strong enough to winter. In the southern part of the country many limes are in full flower, and some later varieties are ready for bursting into bloom as soon as the weather is favourable. At present it is so cold the bees are unable to get out. Feeding should be done in the evening, and care taken not to cause robbing. The danger is not so great while the weather keeps cool, but should it change it will probably be several days before there is sufficient forage to keep the bees busy, and the time when robbing is most likely to take place is when bees are able to fly freely, but there is no nectar to be gathered. In our own locality we have never seen so little clover and sainfoin in flower.

Will our readers please note that Mr. W. Herrod-Hempsall will be away from home for about 14 days, and will be unable to attend to correspondence for that time.

Bees for Discharged Soldiers and Sailors.

We are pleased to say since our last note we have received offers of bees that will supply all applicants but one. Though this was not, strictly speaking, from a discharged service man, the appeal was from Lancashire for bees for training discharged soldiers and sailors in bee-keeping, in conjunction with training in fruit growing and market gardening. We print the letter, it will speak for itself, and we will be pelased to give the address to anyone willing to give bees for the scheme:—

Dear Sirs,—*Re* offer of stock of bees and hive for the benefit of Maimed Soldiers and Sailors—The Food Production Committee having passed a scheme for the training of discharged soldiers and sailors in fruit growing, market gardening, etc., are planting eight acres with fruit trees. I suggested they had a few hives of bees and taught the men bee-keeping along with fruit growing, etc. The ground to be planted will be a fair situation for bee-keeping, and before reading the offer in The Bee Journal I was disposed to help the scheme myself, with bees, and would be pleased to instruct the men in elementary bee-keeping, and attend to the bees (gratis). I think they are providing for about 30 pupils, who are being assisted financially to take up a course of training in fruit growing, etc. It is on behalf of these wounded heroes that I lay my claim to the generous offer in the Journal, and should it be successful, I have no doubt that it would be the foundation of the scheme for training these men in bee-keeping

British Bee-Keepers' Association.

The monthly meeting of the Council was held in the Hives and Honey Department, Royal Show Ground, Cardiff, on Saturday, June 26, 1919.

Mr. C. L. M. Eales presided, and there were also present Messrs. M. D. Sillar, G. Bryden Association representatives.—F. Gravie and W. J. Wiltshire (Glamorgan), Col. Jolly (Somerset), H. Samways (Carmarthen), D. E. Bonvonni (Pembroke), and the Secretary, W. Herrod-Hempsall.

The chairman expressed his pleasure at seeing present representatives who had not been able hitherto to attend Council meetings, and expressed the desire of the Council to have the assistance of all Associations in the management of the parent body. Representatives would always receive a hearty welcome at the deliberations of the Council.

Apologies for absence were received from Messrs. T. W. Cowan, A. G. Pugh, and A. T. Hardy.

The minutes of Council meeting held on May 15, 1919, were read and confirmed.

The following new members were elected: Lady Pelly, Mrs. H. M. Munn, Mrs. E. M. Heath, Mrs. Dunbar-Buller, Mrs. W. Le Sueur, Rev. E. Foster Hemming, Col. R. G. Munn, Major G. E. Smart, D.S.O., Messrs. J. J. Cooper, W. T. Patrick, J.P., H. E. C. Carter, A. E. Bonner, S. Turner, T. W. Cockeram, W. Emerton and M. James. Life Member: H. Ide, Esq., L.D.S.Eng., F.R.G.S.

The following Association representatives were nominated, and all were accepted:—A. Willmott (Hertford and Ware), D. Williams (Cardigan and District), C. D. Burnet (Twickenham and

Thames Valley), D. E. Bonvonni (Pembrokeshire).

Buckinghamshire, Warwickshire and Northumberland Associations applied for preliminary examinations, and all were granted.

The report on the paper work for Final Certificate was presented, and it was resolved to ask the following to attend for the lecture list:—Miss M. Whyte-Johnstone, Major C. C. Lord, Rev. E. J. Bartleet, Rev. G. H. Hewison, Messrs. F. L. Wilson, R. Cruickshank, and A. Briers.

An interesting chat and exchange of ideas amongst the Council brought a pleasant meeting to a close.

Next meeting of Council July 17, 1919, at 23, Bedford Street, Strand, London, W.C.2.

STIMULATION.

The reason why stimulative feeding is carried on in spring is to impel the bees to start and carry on breeding at an accelerated pace. If no spare combs are on hand to give the bees, syrup must be fed in a bottle feeder or in one regulated to supply only a limited quantity each day. None of it should be stored in the cells, but all should be utilised by the adult bees for sustenance, or fed the larvæ for food. If fed thin it helps to prevent the workers having to go out in search of water, and it is best to give it nice and warm. Special slow feeders are on the market allowing a percolation of only an ounce or two each day, according to the number of holes left exposed to the bees. The Wilkes feeder is rather a good sample. The same end may be obtained if a common bottle feeder is covered with several thicknesses of stout cloth, which permits the bees to take it down very slowly. Feeding should start some six weeks before the opening of the honey flow as it takes about that time for the young bees first hatched to become producers. Once started the supply must be kept up steadily right on until honey can be got steadily from some natural source—this in many cases being fruit bloom or plane blossom—but in some cases white clover.

BRUSHING BEES.

In many cases brushing bees is preferable to shaking them from the combs. Several brushes are on the market, and they do the work efficiently. As a rule, I prefer to use a few twigs of, say, currant, gooseberry, or any similar bush, first giving a slight shake to dislodge the older bees, and then rubbing or brushing down the face of one side of the combs and then the other. A goose quill serves the purpose very well.

In using a brush seize the top lug of the frame with the left hand, laying the opposite low corner on some rest—the flight-board, or top of a frame, according as you desire to brush the bees into, or in front of the hive—then with one or two sweeps throw all the bees downward. Without raising the frame or shifting the hand give a turn on the pivot and bring the other face round, when the same operation can be repeated, and the frame left clear of bees. The stroke is firmer, the work lighter, and the effect more telling when the weight is taken off the hand and placed on a rest. Frames containing queen cells should never be shaken, as the violent shock is likely to injure the virgin in the cell at a time when she can bear no rough handling. Brush the bees carefully off all such combs, and in such a manner as will guard against injuring queen or cell.

INTRODUCING QUEENS.

A simple method of introducing these virgin queens is practised considerably in Switzerland, where they have very forward bee-keepers. The queen is removed from the hive where it is intended to introduce the virgin, and two days later one of the cages containing a young queen is plunged in a glass of water so that she is thoroughly drenched. The cage is then opened and the queen allowed to run into the hive. The cold bath has two effects on the queen. In the first place it quiets her. Queens are often rejected because they are in a bad temper and act foolishly towards their new subjects. The cold bath causes all temper or agitation to disappear. Secondly, this bath makes her incapable of taking wing and flying away, as too often might happen with these young queens if direct introduction were attempted without any precaution. A drenched queen cannot fly away, and presents rather a draggled and by no means aggressive appearance. Therefore, the workers simply suffer her to enter, much as they do with a queen introduced by the orthodox direct introduction after she is kept alone and unfed for the regulation half hour. In both cases there is no fight in the queen, and therefore the bees ignore her presence until she acquires the colony odour.

FLOUR IN THE APIARY.

In spring rig out some superannuated skep smelling of honey, wax and propolis, and place therein some flour, and the bees

looking for pollen will quickly concentrate their attention on this "bee-bread," which is indispensable in every breeding hive. Load after load is quickly carried in to aid active increase.

Whenever bees have to be united, here is a cheap, effective and ever-ready means of making the union peaceably. A handful of flour dusted over each lot, or gently powdered from a dredger, converts them into the belief that they are members of one family. One odour prevails, and they amalgamate amicably. Flour as a pacifier is well known and highly appreciated by bee-keepers.

That hum of ill-natured declamation so inseparably connected with a robbing boom calls the attention of the bee-keeper to the fact that predatory warfare is going on. Dust the outflying bees with flour and watch where the white-coated ladies make for. Then "clauster" that hive, or otherwise deal with it, and you may nip the robbing spirit in the bud.

If a swarm comes out unseen, shift the skep into which it has run to some quiet corner. Take a handful of bees and coat them properly with flour, letting them then fly, when they will take wing to the old home-nest, showing you which hive swarmed.—D. M. Macdonald.

How to Build up Nuclei.

The depletion of bees in the country has necessitated a departure from the practice usually followed by beginners, or those desiring increase, of buying stocks or swarms. Either of these methods is quite satisfactory, but the large increase in bees which is necessary for fertilisation of fruit, etc., and honey production has made it imperative that a method be followed which would result in a more rapid increase than could be expected from Nature unassisted. With this object in view arrangements have been made for queen and bee breeding which result in the formation of miniature stocks, or nuclei, on three or four combs complete with food, brood in all stages and a young laying queen.

These little colonies have the following advantages for a beginner:—

(1) A weak colony does not tax the nerves or experience in the same way as a large vigorous stock, or swarm would.

(2) The manipulation in building up to full strength will give that practical experience with which it is necessary to supplement the knowledge gained from a handbook.

(3) A young current year fertile queen bred by an experienced apiarist gives better chances of success than a queen of unknown age or parentage.

When possible a nucleus should be delivered by a bee-keeper of some experience, for a few words of advice to the novice may make all the difference between a good and a bad start. This, however, is not always practicable, and these brief instructions are intended to help the first steps of a beginner who starts with a nucleus and has had very little or no previous experience.

The outfit required is as under:—

One hive with six frames fitted with wired foundation and metal ends, and a division board.

One piece of strong, unbleached calico, 17 in. by 18 in.

Two pieces of felt, or carpet, the same size.

One smoker.

One veil.

A handbook.

This is not a complete bee-keeper's outfit, but is the minimum for starting with a nucleus.

When bees have been confined, and have had the consequent disturbance of a journey, they are usually in such a subdued condition that very little, if any, smoke or fumigation is necessary.

As soon as the travelling box arrives it should be placed on the ground immediately *in front* of the hive into which the bees are to be transferred. The screws which keep the lid in position should be removed and the lid drawn back, giving the bees an opportunity for taking a flight. A convenient drinking fountain should be supplied near the hive, as bees after having been confined are in need of water.

The bees will probably fly very freely, and will keep near the hive. It is quite exceptional for them to be inclined to sting, but they must be handled with confidence and steadiness. It is very essential to establish them in their new home as soon as possible.

Take the roof and lift off the hive and from the brood box take out the six frames and the division board. Remove the lid of the travelling box, lift the frames of comb out one at a time, and place them in the hive in exactly the same order as they were in the travelling box (this is important).

Watch each comb as you handle it to see in which there is brood. You will probably find it in the two centre ones

Take one of the six frames fitted with foundation, and place it in the hive next to the outside comb which has brood in it. The position will probably be between first and second, or third and fourth combs of the nucleus.

Push the five combs together up to one end of the hive, insert the division board, and after it put in the five frames with foundation. On top of the whole place first, the calico, and then the two quilts of felt, or carpet.

The roof should now be placed so as to slope from alighting board to the ground, and the bees that are left in the travelling box should be shaken out on to it.

The queen invariably adheres to a comb, and there is not much risk of her getting lost in the operation. Great care, however must be exercised in handling the frames of comb not to crush a single bee, for by chance the one damaged might be the queen.

Now replace lifts, and as soon as the roof is free of bees replace on the hive, and your task is finished.

The first essentials in a hive are maintenance of the temperature necessary for brood rearing, and attending to brood, only those bees, therefore, which are in excess of these requirements can gather nectar and pollen.

In a weak stock, or a nucleus, this number is very limited, and although if nectar is being secreted it is not likely to fall short of the amount required to keep body and soul together, it will not be enough to produce much surplus, and it will probably be insufficient to produce that state of affairs within the hive, which gets the best out of the queen.

No matter, therefore, what the honey flow may be, a nucleus should be fed. Either with syrup, ¼ pint a day, or a cake of candy per week up to he end of July, from August 1 to 21 double this amount, and from August 22 feed as rapidly as the bees will take the food, until they have enough to carry them through the winter.

No harm will be done if a cake of candy is always kept on top of the frames during the winter, for the bees to take as they require it, placing a new cake in position as soon after the last one has been consumed as the weather conditions permit.

Very great care and attention would be required to winter a four-framed nucleus, unless the queen had been encouraged to lay eggs in an increasing area, and so materially add to the strength of the stock by the time winter set in. This is the object of the feeding, and as the stock develops more room must be given.

When the nucleus was put into its new home a full sheet of foundation was added next to the brood. As soon as this foundation has been well started on by the bees, a new frame should be inserted, again next to an end frame of brood. Add a third frame as soon as the first one has been completed and the second one well started, and so on.

If you get your nucleus early enough in the season, and give it careful attention, you will have built it up to a full ten-frame stock by autumn.

It is usually not much use adding frames with foundation after the third week in August, but seasons vary. A weekly examination in the warm part of the day, when the bees are flying freely, will be sufficient to see what progress is being made.

As soon as the honey flow shows signs of being over (probably the end of July), the entrance to the hive should be closed to two or three inches, and the food on the top of the frames must be packed bee-proof, to prevent robbing.

Bees winter best when they crowd the hives. Early in September combs which are not required by bees to cluster on should be moved to the outside of the division board. Take out those frames of which the comb is not fully drawn out, or those which have least food in them; do not, of course, disturb any combs which have brood in them.

If the bees have been fed as instructed, brood rearing in a small way will probably still be in progress.

After September the hive entrances should be gradually opened to six inches. It is not necessary to keep a very reduced entrance in the winter, no matter how cold the weather. The top of the frames must be warmly packed, and the roof must be weatherproof: damp coverings are injurious for the bees. Do not keep coverings dry by putting on top of them anything of a waterproof nature. The roof must be weatherproof and the coverings porous. A pillow of cork dust is excellent, but mice are fond of it, if they can get into the hive.

These brief notes are not intended to supplement the instructions given in the handbooks, but to emphasise the essential points which must be observed in order that a nucleus should become a honey-producing stock by the following spring.

C. P. J.

Notes from South Wales.

Judging from the enthusiasm that was displayed at the Royal Show in Cardiff this week in connection with the bee tent, and the appliance stalls, I should think that bee-keeping in a few years will be a great industry in this country, everybody seemed to be making inquiries about the craft, and they were surprised at the way in which the bees could be handled, without veil or gloves. One onlooker remarked that Mr. Herrod-

Hempsall must have given the bees a dose of something before he brought them to the show, or he would not be able to play about with them like that, as he remarked that they were not to be played with, for the ones they had kept on the farm where he was were quite different to those that the gentleman had brought with him to the show, and they dared not go near to them without being "picked," as they call it in Wales. A friend of mine who was at the show, and a beginner in bee-keeping, was surprised at the rapid way in which the lecturer answered the many questions that were asked him. I think there ought to be more demonstrations and lectures given on the same lines in this country than there are, it would be the means of encouraging a good many to start bee-keeping that perhaps would never have thought about it before, until they saw that it was possible to handle bees in comfort as was done at the show.

The honey exhibits were small, but what was there was of good quality, and the collection that was staged was a grand sight, and spoke highly for the exhibitor, for it must have taken a lot of time and patience to get it up to that standard. The appliance department was well patronised, and each exhibitor had as much as he could do, with the many inquiries that were made of them. I should say that the bee department of the show was a thorough success. I was not fortunate enough to get any honey for the show, as for the last fortnight it has been very cold and windy here, which has stopped the flow of honey altogether, but I would rather have this weather now, than have it when the clover, etc., is up to its highest, for if we get wet and cold weather then, the bees have not got the chance to make up for it when it does turn fine, as the clover is going back, but if we get it before the cold keeps it back and the bees have got a chance to work it when we do get a warm spell, that is how I have noticed it each year.

A friend of mine sent to say one evening that I could have a swarm if I cared to fetch it, which I soon decided to do, and off I went, with skep and tools. On arrival I found the bees clinging to some iron railings, with privet growing alongside, and, what was worse, was that one of the uprights that supported the railings was in the middle of the swarm, which made the position very difficult, as there were very few bees on the privet, but all on the railings. Of course, I could not shake them off, neither could I cut the railings, so I thought if I could get a few handfuls of bees, and get them to start going in, it would be something towards it; so I put my hand in through them, and must have pushed the bees up against the iron support, with the result that I got five stings in my fingers, but I did not drop the bees that I had on my hand (for the five would have taken more than a jerk to shift them), but shook them down in front of the skep, and off they started in; my little boy noticed me picking out the stings, and said, "put on your gloves, Dad," I thought to myself that he must have felt the pain although only ten years old, so I decided to get a box and brush them off a few at a time, but the difficulty I had with the box was that I could not get it in between the railings as it was too large, so gave that up as it needed something smaller; so off I went and had the loan of a bowl dish with a handle to it that the girl was dipping the water out of the copper with, that just suited me nicely, so I had to brush off a few at a time with my goose wing and throw them down in front of the skep; it was far from being pleasant, like it is when things are all right, as the bees resented the constant brushing, and each time came in clouds at my face; but, fortunately, I had a good veil on, or otherwise I should have had a warm time of it. I managed to get them all in except a few that were hanging on the railings. I happened to have a carbolic cloth in my bag, so I hung it up and all the bees soon went in the skep, and I tied them up safe and off I went home, after thanking my friend for his kindness. I hived them next morning on drawn combs, and they are doing well. I must admit that I felt very proud of being able to get them in, a good deal more than I should if the swarm were hanging in an easy position. I always think that the pleasure in bee-keeping is the difficulties one gets over while working with them. I was very sorry to read that our old friend Mr. Kettle had unfortunately met with an accident, and I am sure that we all hope that he will soon recover, so as to be among his bees again, and to write us a few more "yarns."—E. Boobier, Valley Apiary, Bishopston, Glam.

Jottings from Huntingdonshire

The mowing of the meadows has disturbed many burrowing bees in their strenuous effort to tunnel, and gallery the earth, in order to provide resting places for their grubs. The recent cold weather has not stayed the diligence of the carpenter and mason bees, while the tapestry bee is making sumptuous her abode with brilliant scarlet hangings, cut from the wild poppy. The humble

bees are less evident this season, one occasionally catches glimpses of them among the borage and dead nettles, but a company, that for several successive seasons have made their home under the coach-house floor, is no more. One wonders whether our enemy, Microsporidosis, has been dealing death among those happy, musical, gaily decorated insects!

This disease has swept the country almost clear of the native bee. Here and there one comes across a colony, but even these are not giving their owners pleasure. One hears of sixteen stocks perishing—the property of one man—this last spring, and a village of seventeen smallholders, each having a hive or two, now being beeless. One offers advice, but it is not well received. "If they've got to 'ave it, they'll 'ave it," said one old man, he'd "kep' bees all me life, and you couldn't tell me aught but what I knaw." This individual of such superior wisdom, still manages to persuade half the village that "if it weren't fer them darned bar-frames, we should a 'ad our bees now. My father allus sed that if yer want to ke'p bees yer must stifle the parent stock." What can one do in the face of this crass stupidity?

My Italians are setting to work in real earnest after a swarming fever, which I did not try to stop, as I was snowed under with orders for swarms, mostly from my brethren of the cloth, and I hadn't the heart to keep them waiting, especially when they had hives all ready. Does any bee lover know anything more irritating than watching a clean well set, newly painted hive, with no bees issuing forth? I have one placed ready on my side lawn, for a swarm of Dutch bees, which has not yet arrived. If the swarm doesn't soon arrive my nerves will be whipcord—a vacant alighting board staring one in the face every time one takes tea outside is beyond endurance.

How dare Mr. F. B. Charlton call bees "Remorseless little Socialists?" Why, they are always ready to share their profits with man, giving him a jolly good interest for his money, working unceasingly for his benefit. Is this Socialism? If so, it does not savour of remorselessness. George Herbert and Southey will turn in their graves. Was it not George Herbert who sang—

"Bees work for man; and yet they never bruise
Their master's flower, but leave it, having done,
As fair as ever, and as fit to use;
So both the flower doth stay and honey run."

and Southey—

"Thou work'st early and late thou busy, bee,
What is the end of thy toil?
When the latest flowers of the ivy are gone,
And all thy work for the year is done,
Thy master comes for thy spoil."

No, bees are both Conservative and Liberal, and certainly belong to the Labour-party, but we won't have them called Socialists, will we, Mr. Editor? Playfulness aside, has anyone heard of Bohemian bees, or better still, has any reader a stock? If so, is it correct that they swarm early in May, and then settle down for the rest of the season to work?

The Federation of Huntingdonshire Women's Institute are holding an exhibition in September. They are offering prizes for section and run honey. We mere men will have to look up.—E. F. Hemming, Steeple Gidding.

Staffordshire Bee-Keepers' Association.

The members of the above were invited on Saturday, June 28, to the home of their Vice-President, Bednall Vicarage, by the Rev. A. R. Alsop, and Mrs. Alsop. About 60 accepted the invitation. The time of the meeting coincided with the signing of Peace, and what could be more fitting at such a time than to spend it amongst such restful and peaceful surroundings. Twenty to 30 miles away could be seen the hills of Shropshire and South Staffordshire, the intervening lowland being interspersed with dark green copses, mingling with the lighter green of the meadows and the waving corn. Mr. Price, the County Council Expert, opened the proceedings with a short address on Handling Bees, showing how to do it, and how not to do it; he also demonstrated the fitting and wiring of frames, and fitting in the foundation, an expert bee-keeper who had travelled 20 miles to the meeting being heard to remark that Mr. Price's way of slipping in the foundation was alone worth the journey.

After the bees, business. The meeting resolved into a special general meeting. The secretary gave a short report of the work done by the Association since the last annual meeting; also announced the award of the judges (Mr. S. Thorogood, art director, Stoke-on-Trent, and Mr. H. J. Bostock, Stafford) in the honey label design competition, which has been open to the students of the Art Schools in the county. Over 60 designs were sent in, and the silver medal of the Association was awarded to P. R. Sheppard, Uttoxeter. Owing to the excellence of the designs sent in the committee also awarded a

bronze medal to J. A. Kenderdine, Stafford. The secretary also announced that a show of bee produce would be held in October at the County Technical Buildings. It is proposed to award over £10 in prizes, also silver and bronze medals, members should make a special effort to ensure this being a successful exhibition.

The report of the rules sub-committee was given, and the proposed alterations, with one exception, were agreed to, the new rules will bring the Association into line with other up-to-date organisations, and will enable every member being adequately represented on the committee. Mr. Price afterwards gave a report of the County Re-stocking Scheme, and intimated that the apiary will be open for visitors on July 19 and 23.

The business over, we adjourned to tea, our host and hostess and their bronzed soldier son doing their utmost to make the guests welcome. A hearty vote of thanks were accorded to our vice-president and his good lady, who, he assured us, was the bee-keeper, and not himself. The gathering shortly afterwards broke up, some of the members have to cross to the extremes of the county to reach their homes, Friend Beach, of Burntwood, one of the founders of the Association, and nearly 80 years of age, speaking lightly of a 10-mile walk and a 14-mile railway journey, having previously in the morning done a longer walk. Bee-keepers' meetings, above all others, are a proof of the good fellowship and friendliness of the followers of the craft, and meetings of this sort tend to enhance that feeling, and should be encouraged in every way. Associations of different counties, or different districts, might meet, and prove the brotherhood of the craft.—G.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Swiss Bees.

[9936] Mr. Macdonald's article in the June 26 issue about the good-tempered, hardy, industrious, non-swarming Swiss bees makes one feel inclined to try them. Could Mr. Macdonald tell us what size frame the Swiss use, and how many frames are used for breeding; also whether extracted or comb honey is usually produced, as the non-swarming reputation might possibly be due to a large hive, or extracted honey production.

In F. W. L. Sladen's article in the July 3 issue he states that he has prevented swarming by cutting queen cells. This will not work with Dutch bees. I brought over a stock of these bees from Holland last November, and started cutting queen cells weekly in the middle of May. The bees swarmed five times, before I killed the queen on June 23. Her wings were cut so the swarms could not get away. On one occasion they swarmed the day after cells were cut, and again the day following. On June 22 they swarmed, so I shifted all the brood combs with bees to another hive, except one with the queen, filling up with nine frames of foundation. Next day, June 23, the old bees in the old hive swarmed again, so I made them queenless.

This swarming occurred when they had a super of shallow frames with foundation under the brood chamber, but they have not troubled to draw it out, although they are a strong stock.

These bees certainly kept up the reputation of the Dutch bees as excessive swarmers. This may be a useful trait in restocking the country; but for honey getting the Government is certainly wise in providing Italian queens for the Dutch stocks they have imported, for from the small experience I have had of them, and from what I learned in Holland, the Dutch bee does not shine as a honey producer.—W. B. Wallace, Lieut.-Col.

Difficulties of a Bee-Keeper.

[9937] Having kept bees in a heather district for 23 years, perhaps I can understand the difficulties of "Gwalia" better than some, and I think I can best help him by stating my method of working. When a swarm comes out, I accept it, put it in another hive, and make two nuclei of the combs in brood box. When the young queens are laying I proceed to strengthen the nuclei with frames of brood from the swarm, giving a rack of sections the same time the brood nest is completed. Sections are the only profitable super for heather honey, and queen excluders are a nuisance to both bees and keeper. I never find brood in sections, and since I began have lost only four stocks through being queenless in spring, and my use of sugar would not average more than 1 lb. per year. At end of season there are usually a few unfinished sections, and these are carefully stored, to be used as baits in the first

racks to be put on the next season. This always answers if bees are strong, and a young queen is present. Like "Gwalia," I do not re-queen by the orthodox method in autumn, it is much too formidable an undertaking for me, not because I find it too much work, but because it seems so difficult to subdue the bees while so much sealed food is present. With regard to mouldy combs, perhaps damp quilts have something to do with it, if so, a current of air through roof from front to back, by means of two holes 1 in. in diameter would be likely to cure that. Last, but not least, I would strongly emphasise the editorial remarks.—W. MIST.

Is Pink Candy good for Bees?

[9888] I have some pink candy medicated with "Bacterol" and made by Pascalls. I intended melting this down into syrup according to directions supplied with it and using for autumn feeding, but there seems to be a feeling about that this candy is not good for bees. I should be glad of your opinion in B.B.J. —H. M. L.

REPLY.—The pink candy, or syrup made from it, if used fresh or stored in a glass or earthenware bottle, is quite good for bees. Not a bee has been killed or even injured through feeding on it, and the same may be said of candy medicated with "Izal," "Yadil," or "Flavine." So far as "Bacterol" is concerned, we have warmed the candy and mixed in another tablespoonful to each cake, and have also medicated syrup with a tablespoonful to the pint, and the bees have thriven on it. Syrup containing "Bacterol" should not be stored in tin vessels.

Most of the losses of bees that have been put down to medicated candy have, no doubt, been due to "I. O. W." disease. Our experience is that bee-keepers are generally very loth to admit their bees have succumbed to any infectious disease, and will put such losses down to dysentery, chill, starvation, or pink candy—anything, in fact, but the true cause. We are afraid this is in some cases done when it is desired to dispose of surplus stock or appliances, and when working as a touring expert have known this kind of thing done.

Combs from Other Hives.

Bee-Keeping and Health.

From the insurance point of view bee-keepers are probably the best "lives." People of impaired health who have taken to bee-keeping have frequently astonished their friends—and their doctors—by living to a green old age. Langstroth, the American bee-keeper, had not health enough to be a clergyman—and preaching is one of the healthiest occupations—so he became a bee-keeper, and lived to be eighty-five! A. I. Root, the head of the biggest bee business in the world, is now nearly 80 years old, and has been married for about 50 years. There are five children, ten grandchildren, and a number of the fourth generation. All the descendants live in Medina, Ohio, and all are directly or indirectly connected with the bee industry. No deaths have occurred in the fifty years! Dr. Miller, of Marengo, Illnois, the best known bee-keeper in the world, was trained for the medical profession, but soon discovered that he had not health enough himself to give it to other people. So he gave up medicine, and became a bee-keeper, with the result that to-day he is "87 years young," sprightly as a boy, and a regular contributor to bee literature. The reason is not far to seek. The bee-keeper is engaged in a pursuit of absorbing interest which takes him into the open air, and the sunshine in the finest weather—and only then. There is neither heavy work nor long continued labour, so bee-keeping is ideal for ladies, for older people, and for anyone of impaired vitality.—J. A.

From the *Farmers' Gazette*.

R. W. N. (Neston).—*Making increase.*—If you cannot find the queen, you may either simply divide the combs as you suggest, and four or five days later make an examination of the combs, when eggs will be found in that hive containing the queen. Or you may remove the hive to a new stand, putting an empty one in its place. Remove three or four combs of brood, shake all the bees off them, and place in the new hive. Do it on a warm day when bees are flying freely. The flying bees returning to the old stand will take care of the brood, and may be given a fertile queen.

"BEE-KEEPER" (Kent).—*Moving bees to the heather.*—(1) We have not had any report as to the condition of the heather. Perhaps some of our readers can say what the prospects for the heather honey harvest are. (2) Yes, but that from bell heather may be extracted, and is inferior to the honey from common ling. (3) If the bees had a double set of combs under the

skep they would not be likely to build queen cells in the skep, or swarm, after the queen was confined to the new combs.

"NOVICE" (Wimborne).—*Removing bees from a chimney.*—We are afraid it will not be possible to do this without making a considerable hole in the chimney. It may be done any time, but should not be delayed much beyond the end of the month, to give the bees time to build up for winter. We cannot give precise instructions, as in these operations methods have to be adapted to the conditions.

E. J. FREEMAN (Glos.).—*Transferring bees from skep to frame hive.*—Fit the frames with full sheets of worker foundation, place them in the brood box, and cover the top bars with a sheet of American cloth or other material, in the centre of which cut a hole about 3 in. less in diameter than the bottom of the skep. Place the prepared hive on the stand occupied by the skep, lift the latter from its floor-board and set above the frames. Pack round the bottom of the skep with warm coverings so as to make the lower hive as warm as possible. When eggs and larvæ are found in the lower combs, remove the skep and ascertain if the queen is also on them. If she cannot be found you must "drive" the skep until she is secured and placed in the new brood box. A queen excluder is then put over the top bars and the skep replaced; in about 22 days all the brood in the skep will have emerged from the cells, and it may then be removed entirely, leaving the bees established in the new hive. The skep should be placed over the frames at the end of April or beginning of May, when it is beginning to become crowded with bees. They might possibly work down now, but it must be done at once. They will, of course, use the entrance to the frame hive, and have to travel through it up to the skep.

"BORN ON A FRIDAY" (Oxon).—(1) Probably drones, but we cannot say without seeing them. (2) It may be honey from the limes, or a little honey dew. (3) Yes. (4) We should say the Italian queen is a drone breeder, and was present when you put in the comb of brood, but you overlooked her. Better take her away.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

July 23, Wyke and Normandy Horticultural Society Flower Show.—Open Classes for Section and Run Honey. Section honey prizes, 5s., 3s., 2s.; run honey (1919), 3 1-lb. glass jars, prizes, 5s., 3s., 2s. Entrance fee, 6d.—Hon. Sec., H. S. Mumford, Heatherside, Normandy, near Guildford.

Wednesday, July 30, at Broughton, Stockbridge.—Honey Show in connection with the Broughton and Bossington Vegetable, Fruit, Flower and Honey Show. Open Classes.—Schedules from W. J. Ayler, Broughton, Stockbridge.

Wednesday, August 13, at Wye.—Kent Honey Show. 30 Classes, half of which are open to the United Kingdom. Valuable Cups and Prizes. —Schedules from Alfred Lepper, Wye, Ashford. **Entries close August 6.**

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Monday and Tuesday, August 18 and 19, Cannock and District Horticultural Society, at Cannock.—Classes for Honey and Wax. £12 in prizes and medals (Open Classes).—Schedules from John Bird, F.R.H.S., "Glenmay," Cannock.

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries close August 30.**—Apply to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

PRIVATE ADVERTISEMENTS.

STRONG, healthy Stock of Bees in hive, complete with frames, £6.—S. DUCKERING, The Villa, E. Barkwith, Lincoln. s.21

WANTED, healthy Driven Bees; delivery end of July; boxes supplied.—Price to COULTHARD, Beech Road, Bishop Auckland. s.22

HIVE, and early June Swarm Italian Bees, on six frames, 45s.—GOODE, Woodside Grange, North Finchley. s.23

SELL, or exchange, Belgian and Flemish Doe, 12 months, with nine young two months, £2; one Belgian and Flemish Doe, seven months, with eight young two weeks, 30s. Would exchange for a good extractor, or bees.—HAIGH, 1, Stanley Street, Featherstone, Pontefract. s.25

EXCHANGE a 10-frame Stock Bees for a good tenor horn; on approval.—FAY, Wade, Havant. s.24

ONE Stock of Bees on ten frames, headed with 1918 Italian Queen, guaranteed free from disease, price £4; box 10s., returnable.—GRIFFIN, Sacred Heart School, Roehampton Lane, S.W.15. s.26

BEES.—Strong Stocks for Sale; good workers. Stamp particulars. — SPARKES, Chute, Andover. s.27

FOR SALE, three Nuclei on six frames each, also Swarm, 55s. each.—WILCOX, Dyke, Bourne, Lincolnshire. s.28

WORK.—County Expert, Head Teacher, wants fortnight's engagement (August). Experienced all branches.—Send offers to "Magister," Stratton, Swindon. s.29

WANTED, offers for the first 7 lbs. of healthy Driven Bees.—SKETT, 107, Slade Road, Erdington, Birmingham. s.30

EXCELLENT "Brice" Observatory for Sale, one frame and super, new condition, 42s. 6d., packed free, carriage forward.—LIVERTON, Bere Alston, Devon. s.31

TWO STOCKS, each 10 frames in hives with 6 in. supers, started, £4 each; Wax Extractor, nearly new; new fitted W.B.C. Hive, painted. Offers to clear, owner going abroad.—47, Brodrick Road, Wandsworth Common, S.W.17. s.32

WANTED, for observation purposes, three 1-lb. jars each, light, medium, dark, and granulated Honey.—Particulars, MR. E. BENTLEY, 108, Uttoxeter Road, Longton, Staffs. s.33

NEIGHBOUR'S Observatory Hive, with three glass shutters, rye straw, cane bound, wood rims top and bottom, dome cover to fit, and floor board 15s., or exchange a genuine swarm.—GEO. LEDGER, Weybridge. s.34

THREE strong Stocks Italian Bees, on 10 frames each, free from disease, all with 1919 Queens, £4 10s. per stock, carriage paid; travelling boxes 10s. extra, refunded when returned in good condition. Deposit if preferred.—BRISCOE, "Ashmore," Fairview Road, Sutton, Surrey. s.35

TWO COLONIES, and one Swarm of Bees, for Sale. First offer. Purchaser must remove.—CARPENTER, 101, Sirdar Road, Westbury Avenue, Wood Green, N. s.36

BEES.—Twelve Stocks, Natives, for Sale in August, on 10 frames, price £5 each, carriage paid; deposit of 12s. on box, refunded when returned in good condition.—DR. MARSHALL, Markethill, Armagh. s.37

EXTRACTOR, No. 21A in Taylor's catalogue, takes two frames, new 1918, only used four times, 30s.—BOX 37, BEE JOURNAL Office, 23, Bedford Street, W.C.2. s.38

GOOD second Swarms, 25s., carriage forward; boxes to be returned.—BUTLER, West Road, Histon, Cambs. s.39

WANTED, Cheshire's "Bees and Bee-keeping," Vol. I., Scientific.—BEAMOND, Norbury Hall, Bishop's Castle, Salop. s.40

FOR SALE, four fertile 1919 Italian Hybrid Queens, 8s. each; W.B.C. Hive, new, complete, 40s., carriage paid; 40 Belgian-Flemish Rabbits, 1s. 6d. to 3s. 6d. each, or exchange for swarms.—SEAL, Joiner, Tutshill, Glos. s.46

A FEW surplus 1919 Queens for Sale now, Hybrid, 7s. 6d.; Italian (Penna's strain), 10s. 6d. Also at end of July, 8 or 10-frame Stocks, headed by 1918 and 1919 Queens, 8s. per frame, plus queen 7s. 6d. or 10s. 6d.—ASHWORTH, Heytesbury, Wilts. s.2

WANTED, Stock genuine Dutch Bees, fertile Queen. State price. — ETHERINGTON, Pulham Market. s.41

IN NORTH LONDON.—Three good 4-frame Nuclei, 50s. each; one Artificial Swarm, 6 frame, £3 10s.; one Colony, 10 frames, £4 10s. All Hybrid Italians.—BOX 35, BEE JOURNAL Office, 23, Bedford Street, W.C.2. r.112

FOR SALE, 11 Stocks of healthy Bees on 10 frames each, hives included. What offers for lot?—E. PRIME, Duddenhoe End, Saffron Walden, Essex. s.13

THE Cambs. "Skyscraper" Hive, as illustrated in "Let the Bees Tell You," will be ready for delivery by clover blossom. Specifications and prices sent to anyone interested.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.124

BEES.—Six Stocks Italian and Hybrids, already supered in good wood hives, a bargain; open to inspection; the lot complete £40.—Apply, BLACK, Lawn Road, Uxbridge. s.20

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S Merridale, Top of Castle Drive, Douglas, Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

SELECTED Italian Virgin Queens, Penna's strain, 3s. 6d. each, prompt delivery, safe arrival guaranteed; very strong 4-frame Nuclei (three frames brood, 50s. each, carriage paid; box 10s., returnable.—E. W. D. MADOC, Mattishall, Dereham. s.18

CAN spare a few 6-frame Stocks, headed by Italian Queens, very prolific, £3 3s.—URIAH WOOD, Arnold, Notts. s.1

STRICTLY BUSINESS.—A copy of "Intensive Bee-keeping" sent free with a 1s. order for Flavine. A Japanned Sprayer 5s., post free.—S. H. SMITH, 30, Maid's Causeway, Cambridge. q.123

1919 GUARANTEED Imported Fertile Golden Italian Queens.—Now having regular supplies, can despatch at very short notice. 13s. each; selected, 16s.—GOODARE, New Cross, Wednesfield.

WANTED, large quantities new English Extracted Honey; tins provided.—WYATT, Bishopswood, Chard. s.42

ITALIAN HYBRIDS.—Four- and five-frame Nuclei, 42s. and 52s.; deposit of 10s. required for box, returnable; spare Fertile Queen, 7s. 6d.—D. B., "Glenizla," Upper Deal, Kent. s.45

HARDY 1919 Italian Queens, pure, fertile, reared by experienced breeder in France, who sends queens direct to buyers; very prolific, industrious, good tempered, and recommended for resisting disease; July delivery, 12s. 6d.; August-September, 11s. 6d.—ELLIOTT, "Westfield," Kelvin Road, Ipswich. s.44

IN THE INTERESTS OF ENGLISH AND DUTCH BEE-KEEPERS

A great Market of Stocks of Bees will be held by the Bee Union of Veenendaal from July 15 to 18. The chief day is the 15th.

Particulars from JE VAN HARDEVELD, Veenendaal, Holland.

CARTMEL AGRICULTURAL SOCIETY.
42nd ANNUAL SHOW,
held
TUESDAY, AUGUST 5, 1919.
Judge: A. B. S. WELSH, Esq., Lancaster.
Open Classes for Honey
(Sections and Jars).
L.B.K.A. Silver and Bronze Medals.
Entries close Wednesday, July 23 (Thursday's post in time).
Schedules (state for Honey) from J. N. Parker, Secretary, Cartmel, via Carnforth.

ENRICO BOZZALLA

Novara — Crevacuore — Italy

Begs to advise his numerous customers that orders for queens intended to be introduced in July and August to ensure strong populations of pure Italian Bees for warding off I.O.W. disease, and for safe wintering should be placed as soon as possible.

One price only, and one quality—the best. Specially bred from selected stocks and purely mated prolific Italian Queen Bees:—

July	August	September
10/6	9/6	9/6

Orders are executed in strict rotation. Owing to the uncertainty of the weather for mating purposes customers will kindly refrain from asking for delivery by a certain date. All correspondence and orders should be sent to my Agent: Mr. H. M. Stich, Riccartsbar Avenue, Paisley.

Excellent fertile queens only, delivered by post in perfect condition direct from my queen-rearing apiaries to the customer.

Remember that Italian Worker Bees are the product of Italian Queens and Italian Drones, and that Italian Drones cannot succeed where Black Drones fly.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

WANTED, new Section Honey Beeswax.—NORTH, Cressing, Braintree, Essex. s.43

QUEEN Rearing and rapid increase Outfit, with British and American instructions, 15s. 6d. Swarming impossible with our right up-to-date appliances.—MEADOWS, Syston, Leicester. q.122

Italian Queens direct from Italy.

Address:
E. PENNA, BOLOGNA, ITALY.
I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-
In May the queens dead in the journey have been less than 4 per cent.
Orders are booked in rotation.
Price List on application.

TO CLEAR.
W.B.C. Ends for brood frames 3s gross.
Ditto for shallow frames, 3s. 9d. gross; postage 6d.
Sections, 4½, two and four-way split and grooved, 100, 7s. 6d.; postage 1s.
Excluders, 2s. 3d. each; postage 6d.
Metal Dividers, for 3 sections, 2s. doz.; postage 9d.
Wood Dividers, 1s. doz.; postage 4d.
List on Application. Established 1878.
WALTON & CO.,
MUSKHAM WORKS, NEWARK.

"I.O.W." DISEASE.
No Bee-keeper should be without Allsopp's B'kure Powder to *prevent* and cure "I.O.W." disease.
One of many testimonials:—
"I have used your B'kure Powder for the last two seasons with great success."—T. C. TRIBBLE, Moreton House Gardens, near Dorchester.
Price 2s. 6d. per tin, postage 6d. Full directions on tins.
J. C. ALLSOPP,
87, GERTRUDE ROAD, WEST BRIDGFORD, NOTTINGHAM.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

ITALIAN QUEENS

Direct from Italy.

Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.
For 1 Fertile Queen: July, Aug., Sept., 12 -

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

Adminson's Bees.

¶ Bred from selected bees of world-wide reputation, **Adminson's Bee Strains** represent the highest standard available. It is for the maintenance of this standard that they exist.

The Popularity of Quality.

Not the popularity of cheapness but of quality is both their privilege and established reputation.—Every day our Post Bag gains many additiona testimonials. A further secret lies in the fact that **we have always exceeded the quotations in our notices regarding the strength of bees** (which quotations we have generally looked upon merely as a guaranteed **minimum**) **by no less than 50% in the case of nuclei and stocks, and that we have never hesitated to gratify our customers at all costs.**

We would in addition have reduced our prices, weeks ago, by no less than 50% were it not that we ourselves were forced to incur heavy expenses in securing credited strains from various breeders, in conducting scientific experiments, in employing expert labour, and in the care in production, which naturally causes a comparatively limited output.

¶ From every part of the Country, the following type of an acknowledgment letter is received both from experts and amateurs alike. "Many thanks for the nucleus to hand in splendid condition . . . . I was very pleased with their strength. They did not appear to have suffered in the least by their confinement." Another common type of acknowledgment: "I feel you have dealt very well with me in sending such a strong stock." Yet we consider that we have simply fulfilled our obligations, not in words but in spirit. As for **Adminson's Queens** their popularity is such that a repetition of orders is generally the rule.

¶ In recording our deep appreciation to our customers for their ever-increasing support and patronage, we hasten to mention, in response to enqniries which are too numerous to reply to individually, that **we are at present overwhelmed with orders for queens, nuclei, and stocks alike, and that we cannot therefore accept a single additional order until further notice.**

*** *Advice and Criticism Cordially Invited.*

Adminson, Ltd., Scientific Apiarists, **Benson, Oxon, England.**

Use of the Deposit System.

With reference to our Editorial under the above heading in THE BRITISH BEE JOURNAL of July 3rd, we have received the following letter:

As the "Advertiser" to whom you refer in your leading article of the 3rd inst., I must ask you, in fairness, to publish this letter. Your correspondent wrote to me last year to book swarms for him, but as his application was late I was unable to do so. This year he wrote to me in January—some time before I advertised in your JOURNAL—and asked me to book him three early May swarms. I did so, and wrote and told him that his was the first application I had this year. I did not engage to provide him either with the first swarms I should get or that they should be prime swarms, but remembering his name from last year, and thinking at the time I had had previous transactions with him, asked for no deposit to cover carriage, telegrams, and travelling-boxes. I only asked him what I believe to be a fair market price—less than frequently asked in your columns—30s. a swarm, not £3 7s. for two swarms. On May 26th, 28th, and 29th I dispatched to him three good swarms. I cannot dispute the weight he gives—2⅜lbs., 3¼lbs., and 2½lbs.—as I did not weigh them, but I do not accept the statement as accurate. On May 30th he wrote me that the queen of first swarm was infertile, and that he was going to unite the two swarms: thus I consider taking the whole matter into his own hands entirely. As I do not go in for queen-rearing I do not see how I could have helped him. Since then he has written me letters containing untrue and half untrue statements, and, moreover, refused to pay me what he owes for carriage and telegrams—some 8s. I am not a professional bee-keeper, but simply advertised healthy swarms in your paper as any ordinary country gentleman advertises his garden produce. I send you herewith proofs, which you can verify, as to my *bona fides*. I must take the very strongest exception to your remarks, which have been made without asking me if I had any explanation to give. With regard to the incident of your deposit system, to which you refer, I did not want the trouble and expense of it, and I did business with the "Prospective Purchaser" without it.—"AUDI ALTERAM PARTEM."

So far as we are concerned we still think our correspondent of July 3rd had just cause of complaint. If anyone had been unable to supply us with swarms one year and told us our application stood first for the next season, we should expect to be supplied with first swarms headed by fertile queens—not casts. "Audi alteram Partem" was careful to word his offer so that he did not commit himself to anything, and could supply what he liked, therefore in case of complaint he could either compensate his customer or say, as in his letter, that he did not engage to provide either first swarms or prime swarms.

The purchaser made a mistake in not returning the first swarm, instead of uniting it to the second; by so doing, he did, as the vendor claims, take the whole matter into his own hands. It must also be borne in mind that, when travelling, both swarms and driven bees lose considerably in weight, the amount depending on the length of time they are on the journey. We have known them lose over 25 per cent.

From communications we have received since our notes of July 3rd were published, it is evident that the above practice is too common, though it is only fair to say we have received no other complaint about this particular advertiser, but we have been asked if the complaints referred to other advertisers, as the correspondents have been treated in exactly the same manner. The remedy is in the purchaser's own hands. They should specify exactly what they want, and insist on the deposit system when dealing with a stranger, and as we have said before, if the purchaser would undertake to pay the small commission and expenses—the latter amounting to 6d. unless there is extra correspondence—the honest trader would be very unlikely to object to it.

We have stated the case as fairly as we can, and leave the matter to the judgment of our readers, only, taking into consideration the other side of the case we withdraw the statement that we will refuse further advertisements, and trust that for the future advertisers will state exactly what they are prepared to supply, and send goods that are as good as, or, if anything, better than the description. It will pay to do so.

The Royal Show Fund.

Amount already received ...	£26 19 11
Mr. F. Stubbs	0 2 6
	£27 2 5

Honey Prices.

A few days ago 10 sections were sent to Covent Garden market, and realised 30s. Mr. H. P. Young, Hon. Sec. of the Alton and District Bee-keepers' Association (a Branch of the Hampshire B.K.A.) wrote us on June 24 that the wholesale price of honey in that district was:—Sections 2s. 6d., and run honey 2s. 6d. per lb.

So far as one can see at present there will be only a small crop of English honey and it will be a great help to other bee-keepers if our readers can say what the prices are in their districts. If possible both wholesale and retail prices should be given.

The Grocers' Exhibition.

May we draw the attention of our readers to the above, to be held at the Agricultural Hall, September 20 to 26?—See "Bee Shows to Come."

This show provides an excellent means for those who have honey to dispose of to get in touch with grocers and confectioners in all parts of the country, as well as bringing honey as an article of food to the notice of the public, and thus stimulating the demand for it generally. The honey season does not promise to be a good one, but we trust all those who can, will endeavour to make an entry at this show. It would be a great pity if the honey section had to be dropped for lack of support, especially now that bee-keeping is coming into its own again, and the supply of honey is likely to be much larger in the near future. If we are to keep our own markets, no opportunity should be lost of bringing to the notice of the public the superior quality of our home-produced honey, and creating a demand for it in preference to that of the imported article.

The Bee Garden.

At long last the welcome rain has fallen, and the sowing of seeds of biennial and perennial bee plants can and should be got on with at once.

Sowings of the following made now should produce sturdy seedlings, which, if early transplanted into nursery beds, will make strong, bushy plants for potting, either in autumn or spring, into their flowering positions.

Wallflowers — with their handsome cousin, the deep orange *cheiranthus allionii*, canterbury bells, scabious, aubrietia, alyssum saxatile, arabis (single), centaurea alba, anchusa (Dropmore var.), and French honeysuckle.

All are of easy culture and all are good bee forage.

Last autumn I was fortunate enough to be able to offer seed of Chapman's honey plant (*echinops*), and now have some thousands of strong seedlings to bloom next season, which I shall be happy to distribute on the following simple conditions.

Each application should—I hate the word must—be accompanied by an *addressed* tie-on (tag) label, bearing (a) 4½d. stamp(s) for the postage of the plants. I have neither the time nor I fear the patience to play the office boy, so that any requests not complying with this easy requirement will, perforce, be ignored.—A. F. Harwood, 14, Windermere Road, Ealing, W.5.

Jottings from Huntingdonshire

The Peterborough Show was the event of the past week, and it was delightful to see that the Soke of Peterborough, Hunts and District Bee-keepers' Association did so much to make the show attractive from a bee-keeper's point of view. The honey exhibited was a sight for the gods, and I have rarely seen anything finer in run honey than that carrying off the first prize, the winner being Mr. G. Plowman. The frame and section honey exhibited was rather disappointing; however, it was an education to examine the various conditions of well filled and partly filled combs, and doubtless some hundreds of people wished they had bees of their own, to produce such tempting sweetness. One exhibitor, with a bravery that was commendable, staged some 1918 sections which had been stored where they could absorb an amazing quantity of moisture. Needless to say they did not get a prize—not even a consolation one. The bee tent was a decided attraction, and it puzzled many of the onlookers to know how a man could handle bees without even a veil. One or two comments that caught my ear were amusing. Said one man of the soil, obviously down from the county of broad acres: "Oot man, look at you chap noo; baes on 'is arm, and nowt o' tha stinging a gwaing on." A reply was volunteered by a local lad: "Dun 'e see they know 'im, if you were to go in tent they 'ould sune be arter thee." It struck me as rather a pity that in the demonstration hive the lift enclosing the brood chamber was nailed down to the floor board.

That all the onlookers were not honest men was proved by the fact that a Dutch queen placed in a small box with a glass lid and passed round had disappeared.

when the demonstrator asked for its return. On walking up to the show ground one was struck by the myriad of lime trees in full bloom. The apiaries in Peterborough must be having a rollicking time—especially now the hot weather has returned to us.

Notes and Comments.

The author of "Questions for Bee-keepers" is to be congratulated on having devised a most helpful scheme for the self education of bee-keepers, new and old. How many could honestly go through a set of questions and feel quite sure they knew all the correct answers? I confess *I* couldn't.

Isn't Dr. Abushâdy rather beating the air when he inveighs against bee breeders who are out to get rich quick? If the exalted profession to which he belongs, with its vast resources and its unqualified importance, has not succeeded in getting rid of the quack, can we expect to purge the humble bee-keeping community of the same evil?

I do not think it quite correct to say that only two or three strains of bees have been tried. One recalls that the late Frank Benton introduced a good many races, and these have been tried by men who knew well enough what qualities it was desirable to propagate. It must never be lost sight of that bees stand alone among domestic stock, in that mating is not easy to control, and if a reputable breeder produced the best possible strain, how long would it be before the colonies he sent out would lose most of their original blood? It appears to me that it is well-nigh hopeless to establish a strain of bees, unless colonies are produced in such enormous numbers as to swamp the native race completely.

I confess to feeling rather dubious as to whether the Italian-Dutch product, which appears to be the aim of the present re-stocking scheme, will prove a final success from the point of view of resistance to the "Isle of Wight" disease. That the Dutch resisted it while they were pure, there is indisputable evidence. That the Black-Dutch cross did not resist is equally certain. That the Italians are liable is well known, and Italian-English crosses also fall a prey. If Italian-Dutch (of which I suppose trial has been made during my two years of absence) are resistant, it does not follow that an Italian-Dutch-Black will prove equally so. If not, the scheme is as futile as any other.

I do not want to be thought pessimistic, but we must face the facts squarely, and the point I want to make is that in breeding for immunity, we are bound to remember that a large percentage of colonies will sooner or later be infused strongly with native blood. This is the difficulty that confronts us when we have produced a resistant strain.

I am not sure that Dr. Abushâdy's further exposition of the heating theory carries him any further forward, and there is a point in connection with it, in his latest contribution, which merits closer examination. The good doctor refers to the losses of bees during the winter, and suggests that numbers are reduced very heavily by February, but that the bees may clear away bodies between that time and May. Surely this is straining facts somewhat? What attentive bee-keeper has not seen bees busy on every favourable day from January onwards, removing the fallen? I know that in some manuals the novice is directed to insert a wire occasionally during the winter to remove dead bees. Never in my experience did I find it necessary. Moreover, I have always been an advocate, in spite of adverse criticism, of early examination, and there have been few seasons when I have not found it possible to spring clean my hives at the end of February. And it has been my invariable experience that up to then there has been no undue loss of bees. It is between that time and the final—if it can ever be said to be final—arrival of fine weather, that the losses occur. It is when bees of considerable age go out to face the treacherous weather of early spring that the greatest proportionate losses occur.

I trust that our friend—how naturally one uses the word—Kettle will soon recover from his unfortunate mishap. I am sure that all will look anxiously at each week's JOURNAL for a sight of his welcome epistle.—HERBERT MACE.

Re-Stocking Schemes.

As several short reports have already appeared in the BEE JOURNAL on the above subject, probably a few notes on the work of the Staffordshire Bee Committee will be of interest to your readers.

This committee realised, and I think quite wisely, that unless certain precautions were taken, this excellent scheme for replenishing apiaries might be the means of propagating and keeping alive the "I.O.W." disease, instead of, as it is intended to do, abolishing it.

While recognising the disease-resisting qualities of the bees that will be produced, it would be most foolish to allow incompetent and undesirable persons to get hold of these stocks. With this ob-

ject in view, this committee issued a circular letter to all shareholders, laying down conditions and safeguards, which included a certain amount of supervision of the apiaries they were to go to. Failing an agreement to these conditions, the shares would be refunded. These conditions apparently were so sensible that only two out of upwards of one hundred and fifty shareholders refused to agree.

Personally I think every means should be used to safeguard these bees from going to infected apiaries. Places where persons are constantly pampering with diseased stocks are unfit for any bees to be near; for despite all that is now known respecting "I.O.W." disease, no reliable cure for it has yet been found. Persons that are expecting to receive these nuclei from re-stocking apiaries should help themselves, and also their neighbours, to remove all infected stocks and material, in this way giving the new bees a fair chance of living. All infected combs, or doubtful combs, on which bees have died, should be destroyed and only new material used to enlarge the brood nest.

In Staffordshire eight Dutch lots in skeps arrived at Pentridge Station on April 14 and 23. These have now increased to twenty-nine; twelve being natural swarms and nine artificial ones.

Twelve Italian queens have been received in three instalments, and ten have been safely introduced.

It appears that in several places there has been difficulty in getting the Dutch bees to accept Italian queens. Very few beekeepers realise the difficulties under which this has had to be done. The introduction of queens to stocks already housed on frames is quite a simple matter, but when they have to be introduced to driven bees it is a very different thing, and I am thankful that success has been mine so far.

The Staffordshire Bee Committee have decided to give every bee-keeper in the county a chance of visiting their apiary, and two days have been fixed for this purpose—i.e., Wednesday, 23, and Saturday, July 26. The apiary is situated three minutes' walk south from Pentridge Station, and is open to visitors from 10 a.m. till 8 o'clock each day. Members of the Bee-keepers' Association are specially invited to attend on the Saturday afternoon. Teas will be provided at 5 p.m. each day, 1s. 3d. each, for those giving the secretary four days' notice.

It will probably be of interest to know that this apiary was inspected on July 11 by Wm. Herrod-Hempsall, Esq., who expressed his approval of what had been done. J. PRICE

Kent Bee-Keepers' Association.

There seems little doubt that the courses of lectures organised by the Kent Education Committee on "Bee-keeping" have met with well-deserved appreciation, and although to the uninitiated the subject may seem more or less uninteresting, there is no doubt that once the average person has made the acquaintance of the "busy bee" he is seized with a fascination not easily disposed of. It was, therefore, hardly surprising that the audience which gathered at the garden in the rear of Park House, Bromley, on Saturday afternoon to hear the second of Dr. (ex-Major, R.A.M.C.) C. C. Lord's lectures should have been larger than even the first, or that they should show a marked interest in the subject and exhibit every sign of wanting to add to their store of knowledge in this direction. All were pleased with the thorough, clear and concise way in which the lecturer dealt with his subject.

Dr. Lord's lecture was eminently technical, but he has a way of presenting his subject which obviates any cause for boredom, and he was aided in this by the provision of a hive complete with its busy inhabitants. He dealt with the work of the beginner in providing a hive for his charges, and also with the various appliances with which the novice was advised to equip himself. He proceeded to give details of the stimulation that the bees required, and the best times for providing the stimulation. Some interesting details with regard to the swarming habits of bees were also explained, and reference was made to the legal proviso that should a hive become too full and a swarm result, and should the swarm leave the vicinity of the owner's apiary, provided he could follow the swarm and keep it in sight all the time till it settled, the swarm was his property, irrespective of where it eventually settled. Occasionally people were apt to draw a fine line and refuse to surrender a swarm had not this proviso been observed—and as bees flew and did not travel by road it was not often that people did attempt to follow the insects—but usually people made no bones about handing the swarm to the original owner. The lecturer related with a smile how he once attempted to follow a swarm, and how this involved *his* scaling a 12 ft. wall and obtaining permission to pass through a big garden. The remark that he had not attempted anything of the sort since was perhaps superfluous.

After the lecture was finished a most interesting demonstration was given, in which the audience were keenly interested. *Communicated.*

Salisbury and District Bee-Keepers' Association.

This Association has recently been reformed after a lapse of several years. At the inaugural meeting the following resolution was passed, and forwarded to the Member of Parliament for South Wilts, Mr. Hugh Morrison. "That this Association of Salisbury and District Bee-Keepers' appreciate the position of the Food Production Department of the Board of Agriculture and Fisheries in formulating a bee re-stocking scheme for the county, but wishes to point out that to make the scheme effective it is most necessary to provide legislation dealing with disease, and strongly urges that a Bill should be passed at an early date." Mr. Hugh Morrison very promptly asked the question in Parliament of the Parliamentary Secretary to the Board of Agriculture whether it is proposed to introduce any legislation to deal with bee disease. Sir Arthur Boscawen answered, "The Board are making enquiries of all sections of the bee industry with a view to securing an agreed scheme on which legislation can be based. It will not be possible to introduce legislation until these enquiries are complete."

This Association is very fortunate in having as its president the Hon. Louis Greville. Also the advice and experience of Mr. J. E. Pinder, who is chairman, and Mr. E. C. R. White, an expert judge of honey. Hon. secretary (*pro tem*) being Miss E. J. Hardy, Farnham, Salisbury.

On the kind invitation of the Lady Katherine Bouverie the members met at her apiary in Longford Park on July 2nd. The hives were opened by Mr. White, and the mystery of bee life and work were explained by Mr. J. E. Pinder. An interesting discussion followed. About 50 people being present. Eight members are entering for the examination for the preliminary certificate of the B.B.K.A

A honey show is to be held on August 20th at Heale Park, Woodford, in connection with the Woodford and District Horticultural Show.—*Communicated.*

Doncaster & District Bee-Keepers' Association.

A general meeting, attended by about twenty enthusiastic local bee-keepers, was held at the apiary of Mr. J. A. Claxton, the Grammar School, Doncaster, on Thursday, July 10.

Mr. Claxton gave a lecture on Queen-rearing and Nucleus-forming.

The lecturer thought the simplest method of obtaining new queens was by doubling a very strong stock with excluder between the stories; but he also explained the common method of placing an unwired frame of foundation (or comb) in the middle of the brood-nest of a strong stock, then transferring this comb, after suitable preparation, to a strong queenless lot.

The lecturer also explained his method of nucleus mating. A day before cells were due to hatch each was caged in a "Sladen" or similar cage, with candy, and with the slide closed. At the same time, eight combs of bees, with young brood, hatching bees, and honey, but without queen, were placed in a hive having entrances on three sides. The day after the virgins were hatched, two perforated, tight-fitting division-boards divided this hive into three separate compartments. Two combs were between the division-boards and three outside each. Each compartment had its own quilt (American cloth for choice), and the virgin either run in under the quilt or introduced in the cage with the slide drawn. He maintained that queens mated well from such nuclei, and that a comparatively small force of bees were required to carry the three nuclei on: each helping to maintain the warmth of the other. When the queens laid, a comb of eggs could every two or three days be removed to other hives, and empty comb or foundation given instead. If the queens were wanted elsewhere, two of the three could be removed and the division-boards withdrawn: or fresh virgins might be caged after removing those fertilised.

After the lecture a Government Dutch skep was driven, the driven bees being hived on two combs of brood from another stock, and two sheets of foundation. The Dutch queen was replaced in the skep, and an Italian queen introduced into the new stock formed.—G. H. Hewitson, Hon. Sec

Bee-Keeping Questions in the House of Commons.

In the House of Commons the other day, Mr. Hugh Morrison wished to know whether it was proposed to introduce legislation to deal with bee disease. Sir A. Boscawen stated that the Board of Agriculture were making inquiries of all sections of the bee industry with the view to securing an agreed scheme on which legislation could be based, but it would not be possible to introduce legislation until their inquiries were complete. In reply to Captain Ormsby-Gore, Sir A. Boscawen stated that there was no

monopoly for the import of bees from Holland and America, and the Board had already given such encouragement as they were able to do to private traders to import bee stocks from abroad.

"*Isle of Wight*" *Disease.* — Mr. W. Nicholson wished to know if the Board of Agriculture would give, for the information of bee-keepers, the names of the two drugs mentioned by the Board of Agriculture on page 7, leaflet 253, published by the Board of Agriculture, on the "Isle of Wight" disease. Sir A. Boscawen said the two drugs referred to were not mentioned specifically in the leaflet, because their use had not gone beyond the experimental stage. The Board was, therefore, not yet in a position to recommend these drugs for general use.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Re "Isle of Wight" Disea e and Fresh Air.

[9938] It is interesting to note various opinions given by bee-keepers *re* "Isle of Wight" disease. Personally I cannot accept the opinion held by "W. T. E." and others in a late issue of the JOURNAL, that lack of fresh air in our hives is the cause of the above malady. If this be the cause, how is it that this disease is confined to Great Britain, and practically unknown in America and in Europe, although bees are kept on similar lines as here. This is hard to understand; that is, if we are to accept this theory as stated above. I am of the opinion that a good entrance across the front of a hive, worked according to climatic conditions, is sufficient for ventilation. Bees are taught by nature to ventilate their own hives; a certain number are told off for this duty. Some will be found to fan the cool, refreshing air into the hive, while a corresponding number will be found fanning the hot, sultry air out of the hive, with sufficient draught to blow out a candle. I know of a box of bees in a fixed comb hive, with only ½-in. entrance and in size equal to one brood chamber and two supers. I may say, some of the largest swarms I have seen issued from this stock, which has survived over 30 years with so small an entrance. Bees hanging in clusters around the entrance, as described by your correspondent, is more noticeable in autumn after supers have been removed, as at this period they have generally worked up a strong population to withstand the rigour of winter, and the heat from the cluster, combined with the excessive heat experienced at this particular time of the year causes the bees to come down into cooler conditions; hence the clustering around entrances. A little extension of the hive in the way of supers until cold weather sets in will prevent this crowding. Now, I am not condemning fresh-air treatment, because we know that fresh and pure air is essential to all life, and must congratulate "W. T. E." and others on their fresh-air research; it is quite evident they have our craft at heart. What I cannot accept is that our hives are lacking the necessary ventilation, therefore causing "Isle of Wight" disease in this country. Stocks of bees are purchased from Italy and Holland and sent over to this country. After a short stay here they contract "Isle of Wight" disease, which is unknown in their native land. Although in some cases they may possess a certain amount of immunity, does not this suggest that there is something wrong here? To my mind the evil lies, not in the structure of hives, foundation, etc., but in the polluted condition of our streams. We notice the disease is more prevalent in spring and autumn, when there is a dearth of flowers, and a time when bees require water for brood rearing. Bee experts have proved long ago that polluted water is the home for spores of *Nosema apis*. I wonder if the rivers and brooks in America are polluted to the same extent as in this country? The river Mersey, in this part of the country, is one big cesspool of filth, fed by sewage passing along our brooks. Fish long ago have ceased to exist in this river owing to its unhealthy condition. Bees can be seen taking water from these streams, and in all probability taking home the disease, although we may provide them with drinking fountains, which they at times reject. I have come to the conclusion that the cause of so much "I.O.W." disease in this country lies in the bad sewerage system we have adopted in polluting our streams. It is quite evident we are waking up to the fact now. A committee has been formed at the Liverpool end of the Mersey to work out a river pollution scheme. This pollution is not only unhealthy for our bees,

but also for man and beast, and unless we adopt a different method of sewage disposal then the disease, to my mind, will remain with us.—P. LYTHGOE, Padgate, Warrington.

Over-worked Queens and "Isle of Wight" Disease.

[9939] Mr. Manley in the week's JOURNAL for July 3 has criticised the theory of over-worked queens and "Isle of Wight" disease advanced by Mr. Stich and myself. If you will allow me I should like to reply. I feel it a pity that he should have confined his criticism to the nine facts which have suggested the theory, rather than to the theory itself, and will deal with them as briefly as possible.

His first statement:—"Can a queen be overworked? I believe not." Out of his own mouth will we slay him, two inches lower down he says:—"I quite agree that annual re-queening goes a long way to keep all kinds of disease in check." Now, if this does not mean that his queens have been over-worked and have *visibly deteriorated*, what on earth does it mean?

Of course, it is not *absolutely* confined to frame hives, we only said that it *generally* was, recent copies of the JOURNAL show that many bee-keepers think so, also before frame-hives were adopted to any extent it practically did not exist.

Nor is it certain that No. 5 is correct, but I have heard of it often enough to think so. As he is evidently an admirer of Mr. Simmins (as I am), let him turn up page 447, 1914 edition of "A Modern Bee Farm.":—"It *frequently* happens that the most populous and prosperous colony is the first to show signs of paralysis." To dismiss No. 9 by saying that it has no value, is ridiculous, in doing so he infers that "I.O.W." disease was always with us, but we only discovered it about 1904.

I do not think it is incumbent on Mr. Stich to explain why laying large quantities of eggs should result in "senile decay." We live in a world surrounded by all manner of living creatures, and so far as our experience goes (very limited I admit), if we overtax the powers of reproduction of any one of them, it will result, sooner or later, in "senile decay." Even our friend the rabbit, who has established rather a reputation in this connection, is not an exception.

The onus of proof is therefore upon Mr. Manley, and if he knows of any reason why the queen bee should be exempt from what is apparently a law of Nature, it is up to him to produce it.

"Forcing" the queen is not by any means a "term of speech," and it is exactly the same as forcing a hen, in one case the food leaves the hand direct to the hen, in the other it goes via the worker-bee, but just as surely, the result, however, may be very different, our queen will continue laying even when *over-fed*, but the hen will merely develop an inner lining of fat, and become "egg-bound."

I quite agree with all he says regarding the professional queen-rearer, he has missed my meaning, if he will re-read my letter *carefully* this time he will understand. America, "so far as is known" (Dr. Phillips) has not experienced "Isle of Wight" disease, no doubt a few cases may have occurred.

Regarding the extract from the "N.Z. Fruit Grower," one must admit that it is largely true, and because the writer makes several mistakes which have been pointed out, it does not alter the truth of the remainder. It *is* a disgraceful state of affairs, but we cannot blame the JOURNAL. Probably the real cause is to be found in the fact that bee-keeping in England is not a commercial proposition. Nothing can be achieved without money, and that can hardly be forthcoming while bees are chiefly kept for the love of the thing.

The finest thing that could happen for British bee-keeping would be for America to get fairly generally infected with "I.O.W." disease. Its cause and cure would soon be forthcoming.

In conclusion, has nobody had their interest sufficiently aroused to try the experiment suggested by Mr. Stich? There is no inducement to offer him save the "honour among men" and the love of the bee.—THOS. F. COBB.

Queen Introduction Difficulties.

[9940] I was very much interested in Mr. Butson's experience in introducing queens to the Dutch stocks. I have had quite as much ill-luck as he has, and wonder whether the season has anything to do with it, or, is it the bees? I had a queen balled after being in the hive for two days, on the morning of the third day I found her outside and the colony queenless.

I would like to testify as to one thing those queens that I have successfully introduced are fertile without a doubt. My complaint and doubts are in regard to the bees. Have they been imported from Holland or not? [The bees were imported from Holland.—EDS.]

I must say that I am disappointed in them. They are amiable; too amiable so far as manipulation goes, but where a strange queen is concerned, they are veritable demons.

I thank you for the hint in the JOURNAL. I thought if the bees were run

into a skep on their own stand, left in the skep for a few hours, then in the evening run them on to the combs and brood, and allow the "alien" queen to run in with them, she would certainly be accepted. It will not do with these Dutch bees. They tried to ball her as soon as she was on the board amongst them.

I am requeening them with queen cells from the eggs of those already accepted, so far it has answered.

It would be interesting to have the views of others and their experience on the above. I have just this minute received by post six more queens, and one of them is dead and her attendant bees. Is it the cold, or what? There is plenty of food left in. [The cold during the night probably caused the death of the bees.—EDS.]—HARRY L. JONES, N.D.H.

Hornets *v.* Bees.

[9941] I was very interested in your paragraph *re* hornets attacking bees. My experience is similar to the Rev. Harold Buckton's. There seems to be quite a lot of queen hornets about this year, and a short time since I was manipulating my bee hives, and noticed a hornet rise from the alighting board. It had nothing and I took no further notice; but after about 15 minutes, on going to the next hive, I was just in time to see probably the same hornet rise from the alighting board with a bee, and make off. Being a new experience to me I hardly knew what to make of it, and a friend who was with me suggested shooting it, he himself having at different times shot several. I got him to watch while I fetched the gun, and in a few minutes I was with him. We hadn't long to wait, and for a few minutes, or rather seconds perhaps, we watched the antics of her ladyship, and it seemed that her method was to hover over the alighting board, and fix the home-coming bee. She made no attempt to enter the hive. As I say we watched and thinking she had been at the game before, for goodness knows how long, I didn't give her a chance to have another, and as soon as she was clear of the hive I despatched her with the gun. I have not seen one near the hives since; but the weather has been much colder, and the hornets are possibly not so lively. We have killed nine queen hornets about the house and buildings this spring, and I should think, having regard to what Rev. Buckton has seen about his hives and my own experience, that as bee-keepers it is our obvious duty to kill them, in spite of their beauty or any other attribute in their favour.—G. MIDDLETON, Finborough Hall Gardens, Stowmarket.

Bleaching Powder as a Disinfectant.

[9942] At a meeting of the Cheshire County Bee Committee held last week, it was agreed to distribute leaflets throughout the county, urging bee-keepers to take every precaution against spreading disease. A distinguished chemist who drew up the leaflet, recommends the disinfecting of hives and appliances with bleaching powder. I cannot remember ever having seen this recommended before, either in the BEE JOURNAL or any text book. If it is as efficacious as its advocate states, bee-keepers generally are missing a good remedy by not having it brought to their notice.—E. W. FRANKLIN.

A Record Swarm.

[9943] I do not know the record weight for a swarm of bees, but to-day I took one of just over 13 lbs. According to Cowan this would contain 65,000 bees. This may be of interest to your readers.

The box, with bees, sacking and string, weighed just over 21 lbs. I returned them to their hive, after putting on two extra racks, and from the swarm I took two queens. The hive was crammed with bees before I returned the swarm, and I calculated that the hive contained not less than 150,000 bees. Unfortunately I am in a very poor honey district, being surrounded by market gardens. — R. OSWALD FORDHAM.

[Evidently two swarms had united, hence the two queens. Even so the two swarms were much above the average, as they would weigh 6½ lbs. each.—EDS.]

Notices to Correspondents

B. E. S. (Finchley).—*Using weed killer.*—We have used weed killer on garden paths and also round the hives without any harm to the bees. We are unable to answer your second query, as we have nothing to do with that work, but will pass it on to the right quarter.

E. BUCKNELL (Chesham).—*Bees hovering round entrance.*—It is most likely a second swarm, the queen of which has not yet mated. In that case a number of the "hovering" bees would probably be drones.

"YALE" (Essex).—*Dividing colony.*—It is possible to divide the hive as you suggest. Find the queen at the time if you can, but if you fail to do so, an examination of the combs four or five days after will show which part she is in. As there are queen cells you may, if you like, allow both divisions to requeen from them. You would, of course, have to take the old queen away.

MISS DARNEY (Notts).—Cambridgeshire is a good county for bee-keeping.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

July 23, Wyke and Normandy Horticultural Society Flower Show.—Open Classes for Section and Run Honey. Section honey prizes, 5s., 3s., 2s.; run honey (1919), 3 1-lb. glass jars, prizes, 5s., 3s., 2s. Entrance fee, 6d.—Hon. Sec., H. S. Mumford, Heatherside, Normandy, near Guildford.

Wednesday, July 30, at Broughton, Stockbridge.—Honey Show in connection with the Broughton and Bossington Vegetable, Fruit, Flower and Honey Show. Open Classes.—Schedules from W. J. Ayler, Broughton, Stockbridge.

Wednesday, August 13, at Wye.—Kent Honey Show. 30 Classes, half of which are open to the United Kingdom. Valuable Cups and Prizes. —Schedules from Alfred Lepper, Wye, Ashford. **Entries close August 6.**

August 14, at Skegness, Lincolnshire.—Show of Flowers, Fruit, Vegetables, Honey and Poultry. Three Open Classes, Honey and Beeswax. Lectures and Demonstrations by Experts. 91 Classes Flowers, Vegetables, etc. (Local and County). 14 Open Poultry Classes. Good Prizes and Specials. Entries close July 30; Poultry, August 6.—Schedules, etc., from Hon. Sec., R. Johnson, North Shore Estate Office, Sunningdale Drive, Skegness

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Monday and Tuesday, August 18 and 19, Cannock and District Horticultural Society, at Cannock.—Classes for Honey and Wax. £12 in prizes and medals (Open Classes).—Schedules from John Bird, F.R.H.S., "Glenmay," Cannock.

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries close August 30.**—Apply to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per* ½*in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

PRIVATE ADVERTISEMENTS.

DUTCH, crossed Goldens, strong stocks, brood and bees, £4 10s.—GREEN, Bee-keeper, Laindon. s.47

20 SECTION RACKS at 2s. 6d. each; 12 ordinary Excluders, 2s. each; two Super Clearers, 2s. 6d. each; also two Stocks of Bees on 10 frames, one in W.B.C. hive, one in "Highbury" hive, £5 each.—SEALE, Hardumont, Oatlands Drive, Weybridge. s.48

SEVERAL Stocks Hybrids for Sale, excellent condition, also Nuclei, four frame, 52s. 6d.—BEESY, 7, Bulwer Road, E.11. s.50

FOUR STOCKS BEES, Italian cross, gentle, ready for heather, in ex. frame hives with sections on, swarm control; strain has wintered three years without disinfectants; £4 5s., or nearest reasonable offer. Stamp please for reply. Queens, 10s. 6d. each.—ADVERTISER, 2, London Road, Tunbridge Wells. s.51

FOR SALE, strong Stock Italians, ready to super, guaranteed healthy; also two Hives and Appliances.—BAKER, Peartree, St. Marychurch, Torquay. s.52

OBSERVATION 10-frame Hive, three glass panels and shutters, unused; sell £2, or exchange Italian nucleus.—ROBINSON, Patrington, E. Yorks. s.53

COMPULSORY SALE.—Bees, Hives, etc. Inspection invited. Stamp for list.—GRANT, 14, Beckingham Road, Leicester. s.54

THREE HIVES, good condition, newly painted, wintered bees free of disease, take 15½-in. frames, 15s. each.—Laverockdale, Colinton, N.B. s.55

SEVERAL strong 4-frame Nuclei, Italian Hybrids, 42s. each. Queens raised under swarming impulse. BARNES, 20, Bourdon Road, Anerley. s.56

STRONG, healthy surplus Stocks of Bees, on 8 eight frames, in good condition, £3 12s. each, carriage paid. Cash with order. Boxes to be returned, or charged for. Also Nuclei, four frames, £2 2s. each; young Queens.—V. DONKIN, Naunton Beauchamp, Pershore, Worcs. s.57

ITALIAN BEES, W.B.C. Hives, Extractor, Ripener, sundry appliances; all new. Stamp reply, please.—C. GREEN, Winterley, Sandbach. s.58

THREE splendid 8-frame Stocks, Dutch cross, £3 10s. each.—ALBERT COE, Ridgewell, Halstead, Essex. s.59

THREE 1917 fertile Queens, for delivery at once, very prolific and healthy, 10s. 6d. each.—MacOWEN HALL, Tenterden. s.60

1919 HYBRID Italian fertile Queens, from an extraordinarily prolific mother, 7s. 6d. each. GRAHAM, 6, Merch Terrace, Cadoxton, Barry. s.61

FEW surplus Virgin Italian Queens, 3s. each.—TICKELL, Westbourne, St. Mark's, Cheltenham. s.62

ITALIAN Hybrid Stocks, on six frames, strong, healthy, £3 3s.—SMITH, 5, Florence Terrace, East Cliff, Ramsgate. s.63

BEES for Sale.—A surplus Stock and Nuclens.—BRIGGS, 47, Enys Road, Eastbourne. s.64

WANTED, healthy Driven Bees, delivered end of July.—Price, etc., to THOS. HARRISON, Dryburn Cottage, Frosterley, Co. Durham. s.65

FOR SALE, Light English Honey, in 56-lb. and 28-lb tins, £10 10s. per cwt.—TAYLOR, New Leake, Boston. s.67

READY, end July, several 8-frame Stocks Hybrids, 1919 Queen, ready for heather, £3 10s. each; also Geared Extractor, in excellent condition, £2 2s.—BOWDEN, 167, Ellerton Road, Tolworth, Surbiton. s.68

THREE 1919 Fertile Queens, 7s. 6d. each; 10-frame Stock, with prolific 1918 Queen, 85s., 5-frame Stock, with prolific 1919 Queen, 47s. 6d.; all hybrids; carriage forward; immediate delivery. Inspection invited. Boxes 10s.; deposit.—PRIOR, Culham Apiary, New Eltham. s.66

SURPLUS Stocks Dutch Bees, 3 to 5 frames, with Queen, 6s. per frame.—BROWN, Croydon Sanatorium, North Cheam, Sutton, Surrey. s.65

OFFERS wanted for about 2 cwt. pure English honey of this year. Also bees for sale.—VINCENT, 132, Croydon Road, Anerley, S.E. s.69

WANTED, clean, empty, drawn-out Sections; also screw-cap honey bottles.—Particulars, EDWIN GLOSSOP, Ambergate. s.70

FOR SALE, 11 empty Bee boxes and 3 Nuclei, in perfect order, and thoroughly disinfected, the property of a practical Bee-Keeper (deceased). Offers for lot or singly. Inspection invited.—MITCHELL, Station Road, Bridge-of-Allan. s.71

SEVERAL Stocks and Nuclei for sale, stocks supered, packed with bees and brood, and in excellent condition. Inspection invited.—W. DRURY, Smithfield Road, Gleadless, Sheffield. s.72

STRONG Stocks of healthy hybrid Bees, 1918 Queens, £3 10s., boxes extra.—FLIGHT, Church Street, Leatherhead. s.73

FOR SALE, an "A" Clarionet, good order; also 26s. bound Standard Clarionet Tutor, by H. Lazarus, as new. What offers? or would exchange for Bees. Offers for bees on 4 frames.—F. SOFTLY, Letchworth, Herts. s.74

BEES.—Few stocks of good strain, £4 4s.; four frame lots, 50s.; boxes, 10s., returnable; spare Queens, 8s. 6d. each; all ready for immediate delivery.—UNDERWOOD, Station Road, Cookhill, Northants. r.s.75

FOR SALE, several strong, healthy stocks, all on 10 frames, good workers, £4 each; also driven bees in August by the lb.—A. LAWRENCE, Sutton, Sandy, Beds. s.76

FOR SALE, several stocks of bees, on 9 and 10 frames, good, strong, healthy.—HOOK, High Street, St. Mary Cray. s.77

FOR SALE, at end of August, several stocks of hybrid Italians, 10 frames, good workers. Price £4. Deposit 12s. on box, returnable.—NEEDHAM, Hemel Hempstead. s.78

DUTCH BEES.—Four 5-frame Nuclei, with 1919 fertile Queen, £3 3s. each; box 5s., returnable.—WARD, Stoughton, Emsworth, Hants. s.79

FOR SALE, Nucleus, on 4 combs, cheap.—Apply, WHITE, 61, Hampton Road, Teddington. s.80

WE are celebrating the advent of Peace by giving away a copy of "Intensive Bee-keeping for Honey Production and Disease Control" to any bee-keeper who cares to apply for one between to-day and July 24.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.81

WANTED driven bees. Offering 20s. for first 7 lbs.—SKETT, 107, Slade Road, Erdington, Birmingham s.30

WANTED, for observation purposes, three 1-lb. jars each, light, medium, dark, and granulated Honey.—Particulars, MR E. BENTLEY, 208, Uttoxeter Road, Longton, Staffs. s.33

NEIGHBOUR'S Observatory Hive, with three glass shutters, rye straw, cane bound, wood rims top and bottom, dome cover to fit, and floor board, 15s., or exchange a genuine swarm.—GEO. LEDGER, Weybridge. s.34

BEES.—Strong Stocks for Sale; good workers. Stamp particulars. — SPARKES, Chute, Andover. s.27

BEES.—Twelve Stocks, Natives, for Sale in August, on 10 frames, price £5 each, carriage paid; deposit of 12s. on box, refunded when returned in good condition.—DR. MARSHALL, Markethill, Armagh. s.37

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks Winner of three 1st prizes at three Royal Shows.

SELECTED Italian Virgin Queens, Penna's strain, 5s. 6d. each, safe arrival guaranteed; very strong, healthy 4-frame Nuclei (three frames brood), 50s. each, carriage paid; box 10s., returnable.—E. W. D. MADOC, Matlishall, Dereham. s.18

CAN spare a few 6-frame Stocks, headed by Italian Queens, very prolific, £3 3s.—URIAH WOOD, Arnold, Notts. s.1

1919 GUARANTEED Imported Fertile Golden Italian Queens.—Now having regular supplies, can despatch at very short notice. 15s. each; selected, 16s.—GOODARE, New Cross, Wednesfield.

STOCKS, Nuclei and Swarms, for Sale.—BUTLER, West Road, Histon, Cambs. s.49

STRICTLY Business.—More celebrations. 12 packages Flavine will be sent free with every order for a japanned sprayer (5s.) received between to-day and July 24.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.82

OAK LEGS FOR HIVES.—Special offer of quantity of English Oak Legs, 15s. per dozen sets, carriage forward; sample set, 1s. 6d. Special quotations for large lots.—CLARIDGE, Copford Apiary, near Colchester. s.83

BEES.

STRONG STOCKS OF HYBRID ITALIANS FOR SALE.

These contain six frames, packed as tight full of bees as is consistent with safe transport. At least four combs of brood, two of store, and a young 1919 Queen.

Price 63s. each, carriage paid.

With pure Imported Italian Queen, 7s. extra.

Order now.

We supply the Trade.

We ship to Scotland and other remote parts.

One customer, who subsequently bought nearly £100 worth of our stocks last month, wrote:—"The last lot have given every satisfaction."

PEARSON & GALE,
MARLBOROUGH

CARTMEL AGRICULTURAL SOCIETY.
42nd ANNUAL SHOW,
held
TUESDAY, AUGUST 5, 1919.
Judge: A. B. S. WELSH, Esq., Lancaster.
Open Classes for Honey
(Sections and Jars).
L.B.K.A. Silver and Bronze Medals.
Entries close Wednesday, July 23 (Thursday's post in time).
Schedules (state for Honey) from J. N. Parker, Secretary, Cartmel, via Carnforth.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
"Amateur"

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

QUEEN Rearing and rapid increase Outfit, with British and American instructions, 15s. 6d Swarming impossible with our right up-to-date appliances.—MEADOWS, Syston, Leicester. q.122

Italian Queens direct from Italy.

Address:
E. PENNA, BOLOGNA, ITALY.
I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-.
In May the queens dead in the journey have been less than 4 per cent.
Orders are booked in rotation.
Price List on application.

TO CLEAR.
W.B.C. Ends for brood frames 3s gross.
Ditto for shallow frames, 3s. 9d. gross; postage 6d.
Sections, 4¾, two and four-way split and grooved, 100, 7s. 6d.; postage 1s.
Excluders, 2s. 3d. each; postage 6d.
Metal Dividers, for 3 sections, 2s. doz.; postage 9d.
Wood Dividers, 1s. doz.; postage 4d.
List on Application. Established 1878.
WALTON & CO.,
MUSKHAM WORKS, NEWARK.

"I.O.W." DISEASE.
No Bee-keeper should be without Allsopp's B'kure Powder to *prevent* and cure "I.O.W." disease. One of many testimonials:—
"I have used your B'kure Powder for the last two seasons with great success."—T. C. TRIBBLE, Moreton House Gardens, near Dorchester.
Price 2s. 6d. per tin, postage 6d. Full directions on tins.
J. C. ALLSOPP,
87, GERTRUDE ROAD, WEST BRIDGFORD, NOTTINGHAM.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff

ITALIAN QUEENS

Direct from Italy.

Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.
For 1 Fertile Queen: July, Aug., Sept., 12 -

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.
For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

The Bee World

An International Monthly Journal, Devoted to the Progressive Interests of Modern Bee Culture.

INDEPENDENT, PROGRESSIVE and PRACTICAL

Home and Foreign Literary Correspondence cordially invited

Special Peace Number.

A limited number of copies of this double issue (in 28 pages) is now available free of charge to any reader of the **British Bee Journal** and **Bee-Keepers' Record**, and to County Associations.

Prizes Offered—

ENTRIES CLOSE JULY 30.

(1) One selected and tested **1919 Adminson's Fertile Queen** (Italian, Dutch, "Hybrid," or Native), in addition to one year's free delivery of the **Bee World** are offered for the best concise critical article on the progressive development of British Bee Culture in the light of the Government's Research and Re-stocking Schemes, and in relation to other activities.

(2) A similar prize is offered for the best criticism of the article on "Honey Production and Swarm Control."

Referee: Junior Editor, British Bee Journal.

Offices:

The Apis Club, Port Hill House, Benson, Oxon., England.

Help for Ex-Service Men.

We have received several appeals from bee-keepers who, having done all they can for their country during the war, wish to turn again to their old love of bee-keeping, but find that, during their absence their bees have, to use the soldiers' expression, "gone West." Their desire to restart is checked by the high prices asked for bees, prices beyond their present resources. They do not ask for bees for nothing, but if any one will supply them at a moderate price. We know there are bee-keepers who cannot afford to give away their bees, but who would be willing to help to this extent, and if they will let us know how many stocks they have for disposal and the price—which *must* be fairly moderate—we will put them in touch with one of the applicants. Needless to say, the bees must be healthy. The following appeal is of a different character, and we venture to place it before our readers, possibly someone may venture to consider it as a business proposition, if so, we will be pleased to put them in communication with the writer.

Letters should be addressed F. J. B., British Bee Journal Office, 23, Bedford Street, W.C.2.

"Dear Sirs,—Would you kindly grant me a little of your valuable space to make the following appeal.

"Having read of the generous help offered to ex-service men by readers of the Journal, I venture to ask as well, if some lady or gentleman would assist me with a loan of about £150, on reasonable terms? By so doing they would help me to help myself.

"When demobilised from the Royal Air Force (269323) I found all my eight beautiful stocks dead, chiefly through starvation. But having bought my house and garden, together with alterations and repairs to same, I have no capital left.

"I am desirous of some day possessing 100 stocks of bees and a small fruit farm, and have been trying to get a small holding under the Government scheme, but land is scarce round here.

"Now, I have just obtained a post of all *evening* work bringing in sufficient to live on, but leaving me with five whole *days* a week on my hands, and I have been thinking what a lot of hives I could be making towards that small holding, if only I had the money to buy materials. So rather than waste the time I make the above appeal.

"I shall be happy to give further particulars, as well as refer to prominent bee-keepers of this locality as to the genuineness of this appeal.—With sincere thanks to you, Sir, I am, yours truly,

"F. J. B."

Sugar for Bee-Keepers.

The very unfavourable bee weather, and consequent shortage of stores is naturally making many bee-keepers anxious as to the prospects of obtaining sugar for making up the requisite amount of stores for the coming winter. We are continually receiving inquiries as to whether any sugar is to be allowed for this purpose, as the previous arrangement expired on May 17. The matter is receiving the attention of "the powers that be," and we trust that a generous provision will be made. We quite agree with one correspondent that 8 lbs. per stock for winter feeding will be totally inadequate, especially for those who have to work up the nuclei obtained under the Government bee restocking scheme. We will give any information we receive as soon as possible, in the meantime we must exercise the virtue of patience.

Obituary Notice.

We have just heard, through Mr. J. Pearman, of Derby, of the death of Mr. Hillier, of Hurstbourn Torrent, Andover, who was killed in action in France. Before the war Mr. Hillier's name was well known as an exhibitor at various shows—especially the Grocers' and the Dairy Shows. The latter show he always made a point of attending. To use Mr. Pearman's words, he was "a splendid man, and bee-keeper," like all good bee-keepers, always willing to help those commencing to keep bees, and though the "Isle of Wight" disease has been bad in the district where he lived, it is interesting and encouraging to hear that one of his pupils in the craft has now over a dozen hives. The loss of such men is a misfortune, but the example they set should be an inspiration to those following them.

Extract from the "New Zealand Fruit Grower."

In our issue for July 3, page 276, we printed an extract from the "New Zealand Fruit Grower," sent us by Mr. Manley, to which we appended a footnote. Mr. Manley has since then very

kindly sent us another cutting, accompanied by a letter, in which he says:—"Please accept my assurance that in sending you the extract from the "N.Z. Fruit Grower" Notes and Comments, I only did so thinking it might be of interst to your readers, and not in any way with a view of—how shall I put it?—holding the N.Z. view up to you.

"It is always, I think, interesting to see the views of others, and I enclose 'Notes and Comments' for April from the same paper."

We quite understood that Mr. Manley sent the cutting as an item of interest, and did not intend our footnote to convey any other impression, but we were bound to make some comment on such inaccurate and misleading statements, and we are greatly obliged to Mr. Manley for sending them. It is well to sometimes, as Burns puts it, "See oursel's as ithers see us," and we give an extract from his last cutting as follows:—

BEE-KEEPING EXAMINATIONS.

Want of space prevented me from completing my reply last month to the Editor of the *New Zealand Bee-keepers' Journal* comments on New Zealand *v.* British Bee-keeping.

In his editorial he quoted the remark of a former Ruakura cadet made to him, that "there is a bit more to learn than you get at Ruakura, and that he could write a book on what he had learned since leaving that excellent institution." Most decidely there is more to learn on practical bee-keeping than can be gained by a cadet in one season's course, no matter who he is under, and no one should know this better than the editor himself. If such a person did not improve after his cadetship he would never make a successful apiarist. I presume the Editor has gained much more serviceable knowledge since he left school than he possessed previously. The most one can expect is that the cadet shall acquire a real groundwork of practical commercial bee-keeping upon which success may eventually be built by experience.

Regarding the value of British certificates of proficiency, I have a letter before me from a lady now in Canada conducting a large apiary of her own, who learned her bee-keeping at the Ruakura Apiary. When she landed in New Zealand from England and applied to the Department for a position as apiarist she held a British certificate. Under examination I found she knew absolutely nothing of practical bee culture. She had pottered with a hive of bees at a ladies' college and on that she was given a certificate of proficiency as an apiarist. She had the good sense to realise the worthlessness of the paper, and never afterwards brought it forward. She eventually turned out one of the most skilful apiarists it has been my lot to meet. In 1909 she went home to her people, and subsequently, after visiting several apiaries, wrote me:—"You would be amused if I told you what British bee-keeping is like, and to start here (in England) is out of the question. I consider myself very fortunate in having had the opportunity of working under you."

Another case, the holder of a B.B. certificate I examined in the presence of my chief (Mr. T. W. Kirk) with a similar result. This gentleman subsequently caused much excitement throughout the Dominion among bee-keepers by declaring a case of robbing in a colony upcountry from Wellington to be "Isle of Wight" disease. I could quote other cases to show how unreliable such certificates are, or were. If our worthy friend is desirous of taking his cue for his schedule of queries for examination he surely has it in the series now running through the BRITISH BEE JOURNAL, which, up to my last Journal received (February 27, 1919), had reached 287, included in which is, "251, What are Malpighian tubes?" What this and similar ridiculous questions that run through such a vast series have to do with practical bee culture is past comprehension, and could only emanate from someone who cannot understand what is required in commercial bee-keeping. Yet such as this is given place in the representative Journal. It, at least, arouses one's curiosity to wonder how far the series will extend; one would need to first acquire a knowledge of anatomy before one could attempt to deal with the query on "Malpighian tubes," and other such items. Imagine an average bee-keeper trying to get at the following, which is the correct reply, and understanding when he did get it:—"This name (Malpighian tubes) is applied to the numerous fine coecal tubes of noticeable length developed from the proctodoeal invert of ectodermal origin in Hexopods."

If the Editor will refer to his files of the BRITISH BEE JOURNAL he will see published in the same for December 4, 1913, a letter from me comparing British with New Zealand bee-keeping, to the disparagement of the former, without comment by the Editor.

Referring to the last paragraph, we again make no comment, there is no need, our readers will be able to make their own, especially those who have sat for any of the B.B.K.A. examinations.

We may say that when making our comments on July 3 we were not aware that Mr. Hopkins wrote the "Notes and Comments" referred to. Now, we do know, we are surprised that a man of his standing among the bee-keepers "down under" is not better informed as to conditions obtaining here.

However, it may be interesting to read the comments of the "New Zealand Bee-keepers' Journal" on this article.

"In the April 'Fruitgrower,' friend Hopkins is replying to the Editor's remarks in the March issue of the Journal relative to his action in applying to the British Bee-Keepers' Association for a copy of their examination schedule. Amongst the remarks are: — 'If our worthy friend is desirous of taking his cue for his schedule of queries for examination, he surely has it in the series now running through the BRITISH BEE JOURNAL, which, up to my last Journal received (February 27, 1919), had reached 287, in which is:—'251—What are Malpighian tubes?' What this and similar ridiculous questions that run through such a vast series have to do with practical bee culture is past comprehension, and could only emanate from someone who cannot understand what is required in commercial bee-keeping, etc., etc.

"Good for you, old friend! We like a man to speak his mind, but would suggest that if we are going to cheat at all, let's cheat fair! Surely, to single out one question that suits your purpose of argument and brand the series as ridiculous is not "playing the game." Why not publish the whole list appearing with "What are Malpighian Tubes?" It is unfair and unjust to the compiler of these (to us) excellent series, and to prove it we will give the list appearing with 251. (Here follow the 12 questions as given in the B.B.J.)

"Our readers can judge in how far the term 'ridiculous' applies, and they will have an opportunity of judging further, because we are going to use this series as a basis on which to enlarge the work of the National and its Branches. The Editor was asked by a secretary of a newly formed Branch for suggestions for winter meetings, and as it is his opinion that all winter work should be instructional, has selected and published elsewhere a list of fifteen questions which he has submitted to the secretaries of the three new Branches.

"We shall not use the questions relating to the anatomy of the bee unless desired, neither shall we use those that relate to conditions ruling in England, but the remainder are certainly of very great use. The Editor has always maintained that the work of the National should be organisation and instruction, and this experiment of his will be watched with keen interest. Up to the present nothing of this kind has been suggested, and even if the present venture does not prove successful, we can at least say—we tried."

Beeitis.

Unlike other diseases, Beeitis is considered to be good for man and for the country generally, and for this reason is now being spread by the Government Food Controller's Department by means of Special Committees throughout the length and breadth of the land. It is also spread by means of County Associations, working as separate entities, and by the B.B.K.A.—an Association of bee-keepers represented by a Council, whose profound knowledge of the subject, has caused their hair to turn grey.

The disease is contagious, and is usually found in bee-keepers and in those who come in contact with them. The contagium has not yet been identified. It is usually contracted in the summer months, when the air is warm, and the *Apis Mellifica* on the wing. It is essentially a disease of manhood and womanhood, but is occasionally found in persons of more tender age. Certain characteristic anatomical changes are occasionally evident.

Morbid Anatomy.—The disease enters the body through the brain, and quickly passes into the blood. The period of incubation is of uncertain duration. Periods of declension are rare. It is recognised by the change brought about in the patient's interests and conversation, and by his efforts to spread the disease to others. Heat and sunshine are powerful auxiliary causes.

Symptoms.—Beeitis is manifest in its incipient stages. The patient shows signs of interest in bee-keeping. He purchases a hive and a stock, or swarm, of bees. He then purchases another, and another, and indulges in flights of fancy which are seldom realised. He begins to take an interest in flowers, crops, trees, and to read books which formerly did not interest him. He adds new words to his vocabulary, such as pollen, nectar, honey, and speaks of methods of doubling, dividing, increasing, and wintering, etc. When he approaches a hive he frequently clothes himself with veil and gloves, and will sometimes wear a special form of dress. The latter characteristic, however, is usually peculiar to females.

If the barbed point of the posterior end of a bee should come into contact with the flesh, the patient, if a male, will occasionally indulge in undiplomatic language,

and make use of strange words not to be found in the dictionary (this stage of the disease is serious); if a female, she will utter a piercing scream, make wild gyrations, forget all airs and graces, and vow a vow that she will give up bee-keeping altogether. But she seldom does. The disease is in the blood, and cannot be cured by a vow. After the contact has been made, the patient becomes anxious about certain anatomical changes, and, if there be an enlargement of the cellular tissue, will discreetly retire into seclusion for a day or more. The fever, however, soon returns, and the disease reasserts itself in unabated strength.

Treatment.—Beeitis is persistent, and seldom yields to treatment. There is no known antidote, no absolute specific. Serums, palliatives, germicides, disinfectants are of no avail. All that can be done is to—(1) Place the patient under favourable circumstances; (2) preserve a normal state of mind; (3) guard against complications; and (4) let the disease have its course.

A few cases of supposed cure are on record, but it has been proved that the sight of a swarm of bees in the air will cause the disease to recur in a more or less virulent form. Happily this is a favourable omen, and one which the Food Controller is anxious to encourage.

T. E. Peters.

Jottings from Huntingdonshire

The farmers in and around Steeple Gidding have unwittingly been very kind to bee-keepers this year. Earlier in the year there were acres of winter bean blossom, followed by borage; the spring beans are now in full bloom, while there are many fields of clover ready to offer the bees a feast. Further, they have kept charlock (kerlock) well under, so that there has been no fear here of candied honey, but, above all, these good husbandmen have a few acres of Sainfoin dotted about, so my Italians despite the difficulties of the season, have had a fairly happy time. Never since the honey flow commenced have my bees been so hard pressed as to be only just able to get enough forage to keep them going. True, the cold snap which followed the long spring drought, frightened them from the supers, but not for more than three days.

The other day I was in Holme, and was more than surprised to find that there are not above eight stocks of bees in the whole parish. It seems passing sad that the one time home of one of the largest apiaries in England—one might say in the whole world—should to-day boast of only a few struggling stocks. Unfortunately the Squire discourages bee-keeping, he having been badly "bitten" some few years ago. When one, however, considers the parish stretches away two or three miles from Holmewood, there is plenty of room to keep bees well away from the Squire's garden.

Speaking of being "bitten," reminds me of the various terms used in different parts of the country synonymous for being stung. While in this locality you are "bitten," further north, in parts of Lincolnshire, you are "punctured," while in Yorkshire you are "blown." or "pricked"; in parts of Lancashire you are "kicked," and in North Midlands "tapped." In South Wales you get "picked," and Somerset is contented with "stunged." It would be interesting to hear what other expressive terms are used in those parts of the country not mentioned above.

Most bee experts tell you that if one gets stung frequently in a season the effect in time, is so slight as to be quite disregarded, in other words, one's system becomes so inoculated by formic acid that stings have little effect. Of course the saving clause, "with rare exceptions," finds its way in somewhere. Alas! that I should be one of those "rare exceptions." Last year I boldly set out to become inoculated, and to show I was in earnest I had no alkaline solutions at hand. A sting, early in the year, on my neck, gave me a stiff axis for days, a week after a puncture on the back of my hand caused a swelling from my finger nails to the elbow, robbed me of two nights' sleep, and much peace in the day. I had to resort to *Lotus Plumbi*, at last to reduce the swelling. Being persuaded, however, that all this would help on the inoculation, I boldly attended to my hives unprotected, when a sting on my forehead so rapidly took effect that one hour after I looked as if I had water on the brain. The climax came—it always does come at an awkward moment—one Saturday when I got stung on the right cheek. Before night my eye was closed, and the next morning the left cheek was puffed to ugliness. Imagine my consternation when I viewed myself with the left eye, and knew I had to conduct three services during the day. In church I schemed to hide as much of my face as possible from the congregation, and read the lessons from the stalls, trusting to the "dim religious light" of the chancel to obscure my distorted visage. At sermon time, however, I had to face it out. It was some ordeal to watch from one eye the suppressed smiles on the faces of the people. One would think it was pretty obvious what

had happened, but when the service was over, and the people trooped out, one good lady turned to my little boy, and in a voice that fairly echoed through the porch and down the aisles, said: "Has your father been stung?"

Needless to say I have a supply of liquid ammonia handy now, and other alkaline solutions which render the acid inert.

I wonder, are many other bee-keepers afflicted with such a system: if so, it is rather hard on these good people, who may be hungering to gain certificates, to come up against, "gloves can on no account be used." Gentle, careful handling of the bees goes a long way—but I have seen expert demonstrators get "pricked."

—E. F. HEMMING.

P.S.—Honey is selling here at 2s. 6d a section, if sold wholesale 2s. 2d.

A Visit to Buckfast Abbey Apiary.

No doubt your readers will be very sorry to hear of Mr. Kettle's accident; I am particularly so, because it is only recently that I had the opportunity of being shown round his fruit farm and apiary by Mr. Kettle himself. Thinking that you may like a contribution to take the place of the Dorset Yarn, I send you a short account of my recent visit to the apiary at St. Mary's Abbey, Buckfast, South Devon.

As education officer to the war hospitals, Exeter, I have been conducting a class on bee-keeping, and was able to arrange to take ten wounded men to see this apiary, which had been favourably described to me. I can only say, like the Queen of Sheba, "Behold the half was not told me." The abbey is, in itself, very interesting, the monks belong to the order of St. Benedict, and they started last century to rebuild the abbey and church destroyed in the time of Henry VIII. The church, about a quarter of which is completed, is being erected on the exact site where it stood over a thousand years ago.

THE APIARY, ST. MARY'S ABBEY, BUCKFAST, S. DEVON.

As in olden days the monks were often pioneers of industry in this country, so now they are undoubtedly leaders in bee-keeping. They have about 150 stocks, all in hives of a modern pattern (Burgess's Perfection), and so far this year they have not been troubled by a single swarm. One hive is set apart specially for drone rearing, and another, of course, for the raising of queen eggs. No smoke is employed for subduing the bees, this is all done by the use of a sprayer, as employed in the Flavine treatment methods, but in this

apiary they employ only Izal. This system has been in use for several years, and is found thoroughly satisfactory. In addition to spraying (very little of which is used), all parts are dipped in a solution of Izal once a year. The apiary sends out a large number of queens and nuclei, but they cannot spare fertile queens, as they require all these for re-stocking all their hives. I should mention they are an Italian strain of bees which has been developed at Buckfast, and they are still free of disease, although all the bees round have died.

The Father, Prior Massé, and the Procurator, Father Winfred, conducted us round the apiary. It was particularly interesting to meet the former because we had been studying his lectures on bee-keeping, delivered to our troops in France, whence he has recently returned after serving three years in the French Army. Brother Columban has been for over twenty years in charge of the apiary, and he is now assisted by another brother, who supervises the queen rearing.

There has been a good deal recently in the JOURNAL on the subject of "hot air," —perhaps it is well for some of the readers to have an outlet for their opinions. At Buckfast the natural warmth of the hive is utilised for assisting the development of nuclei. By an ingenious arrangement, four or five nuclei are kept above one brood chamber, with all the consequent advantages. Again Doctor Abushâdy has interested all of us in the question of artificial heat. It will probably be interesting news to many of your readers to know that all the queens raised in this apiary are hatched out by artificial heat in an incubator.

I fear that this account is already too long, but no doubt you will readily understand that we all had a most interesting and instructive visit to the abbey, where everyone was exceedingly kind to us, and that we went away with happy memories, and sufficient material for lengthy discussions.—G. M. ELLISON.

Lancashire Re-Stocking Scheme.

It may interest your readers to know what is being done in Lancashire by the Lancashire Agriculture Committee.

On April 15, 14 stocks of Dutch bees, in skeps, arrived at Hutton and Howick Station consigned to the above Committee.

The bees, when they arrived, were short of food, as the skeps were very light. A hole was made in the top of each skep and a feeder put on, fitting the hole tightly. They were fed twice weekly with medicated syrup. The weather at the time was wet and cold. When it made good the bees responded to the treatment, and they were driven as they became strong enough; they were put on new frames in new W.B.C. hives, and at the present time they have increased to 50 stocks. Several swarms and casts, some artificial swarms, and 30 queens were ordered with the bees; they have not all arrived yet. I must say that in the earlier introductions I was very unfortunate, and lost several, but I am glad to say that I have lost none lately, and I attribute my losses to shortage of food. The old bees hanging about the hives had nothing else to do, but get into mischief. Since the advent of better weather I have had no trouble whatever. I find it very easy to introduce a fertile queen where a virgin has headed either a cast or artificial swarm. The virgin is taken out at noon, and that evening the imported Italian queen in the cage is put on the frames, on its side, as suggested in the Journal recently; in some instances it takes 12 or 14 days before the queen is released, but they are never hurried. All queen cells are taken out and a feeder kept on till she is laying.

It may interest Lancashire readers to know that W. Herrod-Hempshall, Esq., inspected the apiary at Hutton, and expressed his approval of what had been done, and also of the condition of the bees. He considers the Lancashire bee-keepers very fortunate in obtaining nuclei with the imported queens at their head. Where more than one nucleus is ordered, one of the original queens is sent, and the others are queens raised at Hutton from the Italian queens originally sent.—"A LOVER OF BEES."

Jottings.

Difficulties of a Bee-keeper.—(Pg. 279.) What a peculiar and confusing letter this is, *for a bee-keeper*. Your correspondent talks of a few hives becoming queenless each spring, as might the owner of a good number. With little time, surely it would be better to keep a less number well, as a cure for most of the complaints.

Most keepers accumulate a few spare combs of all kinds, surely they are worth care, if only for the purpose he lacks patience for; boxes stacked out of the reach of mice, if bee cleaned and dried, should not mould, or harbour any kind of vermin; if hives in any number are kept, a special store should be built, and would well repay the cost. A number each year must inevitably come to the melting-pot.

Newspaper wrappings assist to keep the moths away.

Pleasures and Trials.—Some of the chief sources of interesting variations our little friends set up for the "know all" mind, are the out of reach and substantial alighting places chosen for the swarming picnic, and for which the prospective taker finds it so desirable to have a free "shake." A small swarm recently settled nicely above the reach of a twenty-rung ladder, in the wobbly part of a small yew, and as they were near the stem, it was hardly advisable to shake one's own perch, so I contrived to coax them into the skep by the fear of smoke. After a time I secured the queen, and, being none too strong on my "pins" or in my breathing apparatus, I thought that would suffice, after burning my fingers and dropping the smoker, and such minor details, as it was impossible to fix the skep.

They appeared to settle down and were destined to put right a drone-rearing colony, but they went home again, the owner said, and have not been out since, so they evidently had other intentions.

Putting 'em Back.—This seems no use, unless one is able to take out frames of young brood, for preference, to add to weaker colonies, giving an additional super, and even then in two or three instances this year I have seen, owing to late and dull season, an inclination to store these new frames of comb with honey, which seems fairly profuse, rather than take to the section racks, showing they think the season short and sweet, and are already storing for winter convenience in close proximity to the brood nest. This must be looked into or weak colonies will ensue next spring.

Fertile Workers.—I have been messing with a couple of these pests since the beginning of May, chiefly to see what happened. They allowed queens to hatch in two instances before destroying them. I have divided them in the hope of getting one right, and spent many hours trying to locate this beauty. At one time they were laying six or seven eggs in a good many cells. Two or three times they started queen cells with these eggs, and yet would not accept an alien cell at that time. I have now given them a good mix up, adding a sound brood comb and queen cells.

Moving Bees.—An easy way, with less jar to fix up entrance, is to fix a piece of perforated zinc on to the back of a narrow board, using two screws. If the doors slide in an external fillet, turn ends to meet hive walls.

Surrey Bee-keepers' Association.—The Rev. E. C. Pitt-Johnson, Heatherwood, Pirbright, Woking, as a supporter of local centres, kindly offers the hospitality of his house for meeting. It is a pity if this does not have local appreciation. It is suggested that unless plans are now made things will be worse next year. Some busy person is circulating untrue statements, others are wondering when the expert is coming, while two others have lapsed, because they were told "somewhere in London" they must subscribe to a Farmers' Association to secure their sugar allowance. It is all very confusing, especially as there is no report issued. It seems time to "drive our bees" and get a fresh start.

A. H. Hamshar.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

International Bee Culture.

AN APOLOGY AND AN APPEAL.

[9944] Your readers will forgive me for the compulsory over-delay of this communication, which should have been in your hands weeks ago.

As I write it, late at night, after a hard day's work under unenviable conditions and in the very heart of the country, it is almost devoid of even an average inspiration, and is principally intended as an apology to the many friends—readers of the British Bee Press—it is entirely beyond my power to reply to individually.

Since my failing health forced me to give greater attention to the enjoyable cure of practical bee-keeping, though at the cost of heavy financial sacrifice, my duties quickly multiplied, and my moral obligations became too many, until no alternative but a *hard* working day of no less than the absurd figure of thirteen to fifteen hours became the rule, almost without a break. Three months of this cure have completely transformed the remedy into a depressing illness, which has to be endured longer, if possible, for the sake of one's duty to many others. And this alone forms my excuse to your kind readers, who have on multiple occasions honoured the writer by their criticism, advice, and encourage-

ment, for the sudden cessation of my contribution to the Bee Press. My greatest indebtedness is certainly due to my critics, to whose moral courage and independent example of watchful study the revival of a more refined standard of bee education has been attained. Sober scepticism and a growing interest in research now replace the traditional belief in the perfection of present knowledge, although the sporadic defence of the contented section of apiarists is met with from time to time, but usually in a tone a reply to which would be quite superfluous and a waste of time, ink, and paper.

I sincerely hope that the weekly afternoon during which my regular contributions to the Press were real mental recreation and pleasure will not be finally beyond my reach. I still owe your readers at least the completion of my "Notes on 'Isle of Wight' Disease," which I hope to fulfil in the near future. But as for your genial courtesy and disinterested support, I shall always remain under great obligation.

British bee culture is in no need of the humble efforts of the writer, whose response to the suggestions of many apiarists (both at home and abroad), regarding the issue of the *Bee World* is simply an effort to bring to the foreground the international spirit of co-operation and exchange of knowledge. Though already an invalid, I shall not relinquish the task if the necessary promised support is to be attained and maintained; and if any success will result from such an educational scheme, the Editors of the BRITISH BEE JOURNAL and BEE-KEEPERS' RECORD—the leading schools of British bee culture—will have full reasons for gratification.—A. Z. ABUSHADY.

Chloride of Lime as a Disinfectant.

[9945] Having noticed Mr. E. W. Franklin's note, No. 9942, in the *B.B.J.*, p. 304, might I add that I have for several years used a solution of chloride of lime for all the internal woodwork of my hives with good results, and prefer it to all other disinfecting methods, even to the blowlamp, as when properly done it leaves the hive, frames, chambers and all clean and sweet, and I believe the bees thoroughly appreciate it.

To prepare:—After cleaning all wax, propolis, etc., off, I take, say, an ordinary twopenny package of chloride of lime, and stir it into six pints of cold water (or in about that proportion; a little more or less is immaterial), using a wooden or earthenware vessel, not iron, breaking up all lumps and stirring it up well twice, then leave it overnight to settle. Next day decant the clear liquid into another vessel, leaving the sediment. Apply the clear liquid freely with a large paint brush, seeing that it gets well into all crevices, etc., and when dry, go over it a second time, brushing it well in, then leave till thoroughly dry, when any loose lime can be brushed away with a stiff brush, such as a whisk or a clothes brush. When thoroughly dry and brushed out the hive is sweet, clean and ready for the bees. Several others whom I know use this *old* method, and all speak well of it; but, like all other sanitary work, it needs doing thoroughly.—T. WOODHOUSE PARKINSON, Whitby.

Hiving a Swarm.

[9946] One reads in bee-keeping books on how to hive a swarm by driving them up a board, and watching the queen go in. Some years ago I got quite tired of this plan as it took so long, also a man who helped would use a smoker, which I hate for this kind of thing. If one remembers, a smoker gets very hot, and a dirty brown fluid comes out when in this condition, and there is no necessity to use it. I hived my swarm this way. After getting the swarm mostly into the skep, seeing the queen was in by the bees left out joining her in the skep on the ground, and leaving it till only a few bees flying about. I lifted it up with the board underneath, and carried it to my new hive that had six new foundations, warmed to make them pliable, and two old drawn out combs, well sprayed with Bacterol, so the queen could start right away. These frames are placed three each side, so as to make a space in the middle. I then lift the skep, after weighing, and place it over the frames and space in the middle. Beat the skep with the hands when down the bees go and get on to the foundation at once. After a few minutes close up the frames and dummy, and cover up snug.

If honey is plentiful, don't feed. Give them three days before looking at them. They will then be found busy in and out. About the third day the combs will be found being drawn out and honey in some. Give new foundation in the centre of the brood nest. Keep this up every three days until they have the full complement of frames and dummy right up against the first frame. The combs will be found full of honey. After a few days, put a super of three or four frames on top, and the bees will be on them at once. Then add one or two every three days, and you will have a busy hive.

Mine were hived on July 12, and draw-

ing out super combs on the 18th, which was not a bad feat. The swarm was 5½ lbs. The hive they left had a ripe queen cell which is hatched and the young queen expected to fly any day now.

I think this way of hiving a swarm is much quicker and less tedious than throwing out on the board, and flying bees soon join. Bees from the old hive left are not allowed to come to new hive.—C. TREDCROFT, Lt.

Restocking Schemes.

[9947] Having read with interest the various reports on the above schemes, thought it might interest many if a brief report of the Soke of Peterborough and District scheme is progressing. Six skeps of Dutch bees arrived on Easter Tuesday, all very small lots except one. They were a most comical-looking assortment, two being wicker baskets, mud-covered and thatched. To get a feeder on they needed the thatch brought down and a "cap" sawn off the top. These difficulties over, feeding was commenced.

On May 30 No. 1 Italian queen arrived, and it was with great difficulty I got sufficient driven bees to put her with. She appeared a virgin, and certainly, as she did not start laying until June 20, almost proves that so. Nos. 2 and 3 queens arrived June 6, both virgins. No. 2 started laying June 27. No. 3, although caged over frames 48 hours, was attacked. She was caged another 48 hours in a pipe-cover cage, but was killed next morning. Natural swarms now came along, and to date (July 21) I have made the apiary up to 34 colonies, including the six original skeps. The number of virgin queens coming out with casts is astonishing—as many as five and six in one cast, and from one hive two casts came out in one day with three and five queens, one the day following with three queens, and one two days later with four virgins!

These swarms and casts are doing well now, covering from three to seven frames each. Now as to the queens. They are not as expected; not a single fertile amongst the twelve received, and at 10s. each they are a dear proposition—one might almost call them a fraud. Two have been killed in introduction, and three lost on their matrimonial flight, leaving only seven; and the committee consider these should be made good by the Board, or the Italian breeders, as certainly "fertiles" were paid for. The apiary is certainly congested, as we never anticipated such increase without being able to send out nuclei, and it is only this week that I have been able to start queen-raising to head the nuclei. The Peterborough Co-operative Society, on whose land they are standing, have very kindly allowed us more ground now, but that does not get over the trouble of having to keep so many colonies so long through receiving only unfertile queens. Artificial feeding is now the trouble, as although we have applied we have not yet got a grant for sugar.

The Committee propose to dispose to subscribers this year all over 20, keeping the six skeps with their Dutch queens, and 14 nuclei headed by the Italian and Italian-hybrid queens.

So far, I think we can claim success, but unless we get legislation quickly it will be a great task on committees and experts to see these nuclei are not in contact with hotbeds of disease.—L. ANDREWS, Expert to the Resocking Committee, Peterborough.

Honey at Beds. Agricultural Show.

For the first time for years this show has been held at Dunstable, on July 19. The honey classes were not very large, but of very fine quality, the judge being Mr. Edric Druce, of Shrewsbury. The awards were:—:

Six 1-lb. Sections.—1, R. Howes, Streatley; 2, H. Webber, Studham.

Six Bottles Light Honey.—1, J. N. Godfrey; 2, H. Webber; 3, R. Howes; 4, A. E. Warren, Bletchley.

Six Bottles Medium Dark Honey.—1, E. B. Mason, Ampthill, Beds.; 2, A. E. Warren.—A. E. W.

Combs from Other Hives.

THE SWARM.

If Swinburne, the melody-maker,
Or Keats with his passion for beauty,
Or Wordsworth the chanter to duty,
Or Herrick or Shelley were here,
Where the air is alive with strange humming
And filled with a going and coming,
The Queen of my bees, the Forsaker,
Forever would sing in your ear!

Uncounted, her people come winging,
This hour that the high sun is warming,
This hour of their annual swarming,
This exodus hour of their year;
An above the hive home they are leaving
A great web of wings they are weaving,
As, circling and sailing and singing,
They float and they plunge and they veer.

Their wings are a gleam and a glimmer
In sunlight of magical Maytime,
Till a flame that is brighter than daytime
Seems flashing its radiance near:
Such rhythmical meeting and parting!
Such gay and bewildering darting
Athwart all the silvery shimmer!
Such brave and adventurous cheer!

Like sun-motes they hover suspended,
Aquiver, ecstatic and singing;
Then slowly go swaying and swinging
To a restful old cherry tree near,
Till there on the tree hangs the wonder!
Draw close and fold over and under—
The song and the shimmer are ended
And only the silence I hear.

O Queen, with your people around you,
The pulse at the heart of the cluster,
How old are the instincts that muster
Such cohorts out, year after year?
Is the swarm of your will and volition,
Or because of an ancient tradition?
What honour code was it that bound you
To venture forth thus without fear?

It may be a dumb hidden yearning,
Some urge of which you are partaker,
That makes you, O Queen, a forsaker
Of the fragrant hive, dusky and dear.
You have left the old home in the keeping
Of princesses quietly sleeping,
While you, when your scouts come returning,
Must journey o'er woodland and mere.

For the swarm will arouse from its resting,
Take wing and fly off without sorrow
Straight into its dream of the morrow,
Till the far chosen place shall appear;
And there, of the deeps of its passion,
New cycles of hope will it fashion,
For such is the goal of its questing
In the mystical spring of the year.

—GRACE ALLEN, from *Gleanings*.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

Wednesday, July 30, at Broughton, Stockbridge.—Honey Show in connection with the Broughton and Bossington Vegetable, Fruit, Flower and Honey Show. Open Classes.—Schedules from W. J. Ayler, Broughton, Stockbridge.

Wednesday, August 13, at Wye.—Kent Honey Show. 30 Classes, half of which are open to the United Kingdom. Valuable Cups and Prizes. —Schedules from Alfred Lepper, Wye, Ashford. **Entries close August 6.**

August 14, at Skegness, Lincolnshire.—Show of Flowers, Fruit, Vegetables, Honey and Poultry. Three Open Classes, Honey and Beeswax. Lectures and Demonstrations by Experts. 91 Classes Flowers, Vegetables, etc. (Local and County). 14 Open Poultry Classes. Good Prizes and Specials. Entries close July 30; Poultry, August 6.—Schedules, etc., from Hon. Sec., R. Johnson, North Shore Estate Office, Sunningdale Drive, Skegness

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Monday and Tuesday, August 18 and 19, Cannock and District Horticultural Society, at Cannock.—Classes for Honey and Wax. £12 in prizes and medals (Open Classes).—Schedules from John Bird, F.R.H.S., "Glenmay," Cannock.

Saturday, Aug. 30, at Hinckley, Leicestershire and Rutland Bee-keepers' Association, in connection with Hinckley Flower Show.—Open Classes for Honey, Sections and Jars. Prizes, 12s. 6d., 7s. 6d., and 4s. 6d. in each class. Judge, W. Herrod-Hempsall, F.E.S.—Schedules from A. Kimbrell, Esq., Clarendon Road, Hinckley. **Entries close August 25.**

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 3 and 4, Glasgow and District Bee-keepers' Association, in conjunction with the Glasgow and West of Scotland Horticultural Society.—Seven Open Classes for Honey and Appliances.—Schedule from Hon. Sec., Peter Bebbington, 65, Robertson Street, Glasgow.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries close August 30.**—Apply to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

PRIVATE ADVERTISEMENTS.

FOR SALE, six Stocks of Natives, on six frames each, well filled with brood, strong in bees, and prolific queens; healthy; "I.O.W." disease unknown in Island; boxes, 7s. 6d. each, carriage paid; deposit invited. Please post offers this week.—C. E. GOULD, 38, Fountain Street, St. Peter Port, Guernsey. s.102

ITALIAN Hybrid Stocks, 10 frames, 90s.; 8 frames, 70s.; 6 frames, 50s.; all 1919 Queens; guaranteed healthy. Inspection any time. Surplus 1919 laying Queens, 7s. 6d.—REDDIE, Cliff Cottage, Leigh, Essex. s.84

4-FRAME Nucleus, bees cover four frames, with 1919 Queen, £2; 4½-lb. Swarm, now on 9 frames, full sheets foundation, 39s. 6d.; 5-lb. Swarm ditto, ditto, £2 3s. 6d.; carriage paid; boxes returnable. —MATTHEWS, 25, Cray Road, Crockenhill, Swanley, Kent. s.85

TEN round 28-lb. Honey Tins, slightly soiled, 1s. 9d. each; five of 14 lbs., 1s. 4d. each; one 7 lbs., 1s.; 60 Section Racks, each 14 by 17, 1s. 6d. each, to clear; room wanted.—Box 38, BEE JOURNAL Office, 23, Bedford Street, W.C.2.

DRIVEN BEES.—An error occurred in my advt., s.30, July 10. Have no bees for sale, but want to purchase.—SKETT, 107, Slade Road, Erdington, Birmingham.

FOR SALE, strong, healthy Stocks Bees on 8 and 10 bar frames, 55s. and 70s.; travelling box 10s. extra, returnable.—TYLER, Fleet, Weymouth, Dorset. s.118

WHAT offers for 5 lbs. June Swarm Italian hybrid Bees on 8 frames? Approval; deposit. Stamp reply.—CHITTY, "Burleigh," Cassington, Oxon. s.115

FOR SALE, four Hives, good condition, fresh painted, take sections, 10s. each.—BISSET, Broadwater Street, Worthing. s.116

SEVERAL STOCKS, each 8 frames, 1919 Queens, ready early August, £4 each, carriage paid; deposit 12s. on box, returnable.—REV. HARCOURT, 9, Lansdowne Avenue, Slough. s.117

FOR SALE, two strong Stocks, each on 10 frames, 1919 Queens, ready for heather, £4 4s. each; box 12s. 6d. extra, returnable.—CRANE, 236, St. Helens Road, Bolton. s.119

SIX or seven healthy Hives of Honey Bees for Sale; never been any disease amongst them.—Address, Box 79, *Journal* Office, Newcastle-on-Tyne. s.103

FOR SALE, cheap, Meadows' Extractor and 56-lb. Honey Carrier; good condition. No reasonable offer refused.—DAWSON, 23, Church Hill, Northfield, Birmingham. s.86

WANTED, to rent, 6-roomed House (detached) with about ½ acre of garden, small orchard, or ground suitable for bee culture; near station.—ASHWORTH, Heytesbury, Wilts. rs.88

VERY prolific and healthy fertile Italian Queens for immediate delivery, 10s. 6d.; Virgins, 3s. 6d.—MacCOWEN HALL, Tenterden, Kent. s.89

FOR SALE, Light English Honey, in 56-lb. and 28-lb. tins, £10 10s. cwt.—TAYLOR, New Leake, Boston. s.90

EXTRACTOR wanted.—Price and particulars, A. HARNESS, Burgh, Lincolnshire. s.91

FOR SALE, two Stocks, 10 frames, 70s. each; strong Swarm, 45s.; all prolific Queens; Hybrids; boxes 10s., returnable.—GIBBS, Westmount, Carterton, Clanfield, Oxon. s.92

A FEW fertile Dutch Queens for Sale, 5s. each. —BRIERS, 27, Winchester Avenue, Leicester. s.94

HEALTHY BEES for Sale, Italian cross, gentle; Swarms, 3½ lbs., 23s.; Queens (1919), 10s. 6d. each.—COOMBER, Hamsells Cottage, Penshurst, Kent. s.95

STRONG Stock of Hybrid Bees, crowded, on 9 frames, full of brood and stores, £3 10s. Send travelling box.—E. PRESSEY, St. Elmo, Coulsdon. s.96

WANTED, three lots healthy Driven Bees; delivery first week August; not less than 4-lb. lots.—RICHARDS, Florence Villa, Ilfracombe. s.97

HEALTHY HYBRIDS.—10-frame Stock, 8 solid brood, two capped honey, £4 10s.; 7-frame Stock, £3 3s.; 1919 Queens; travelling cases 10s. each, returnable. — WHITEHEAD, 184, Stocks Road, Preston, Lancs. s.98

HYBRID STOCKS (surplus) on six frames, ready end July, 1918 Queens, £3; box 10s., returnable. Deposit if preferred.—VEASEY, North Park, Eltham. s.99

RECORD Stock of Bees, Italian strain, on 10 frames, and in three racks, drone base shallow frames, 100 lbs. honey ready for extracting; also five other good Stocks, each on 10 frames, all working in supers, free from disease; new (W.B.C.) Hives. What offers for whole, or part?—GEORGE LAKE, Witham, Essex. s.100

FEW Stocks healthy Bees, hybrids, strong, 10 frames, brood and honey, £4; box 5s., returnable; few strong Nuclei, 4 frames, with pure Italian 1919 Queen from Penna, June, 50s.; box 5s., returnable. Either sent with perfectly new Lee's Holborn Hive, 29s. 6d. extra.—H. J. HEWETT, 5, Owens Road, Winchester. s.101

A FEW surplus Nuclei for Sale, my famous bees, 4-frame, 38s.; 5-frame, 42s.; 6-frame, 46s.; carriage forward; box deposit 5s.—FRANCIS RAWLE, 130, Victoria Street, Grantham, Lincs. s.111

SEVERAL Stocks Hybrids for Sale, excellent condition, also Nucleus, four frame, 52s. 6d.—BEESY, 7, Bulwer Road, E.11. s.50

1919 HYBRID Italian fertile Queens, from an extraordinarily prolific mother, 7s. 6d. each.—GRAHAM, 6, Merch Terrace, Cadoxton, Barry s.61

THREE splendid 8-frame Stocks, Dutch cross, £3 10s. each.—ALBERT COE, Ridgewell, Halstead, Essex. s.59

READY, end July, several 8-frame Stocks Hybrids, 1919 Queen, ready for heather, £3 10s. each; also Geared Extractor, in excellent condition, £2 2s.—BOWDEN, 167, Ellerton Road, Tolworth, Surbiton. r.s.68

WE are celebrating the advent of Peace by giving away a copy of "Intensive Bee-keeping for Honey Production and Disease Control" to any bee-keeper who cares to apply for one between to-day and July 31.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.81

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

GOLDEN HYBRID, 4 frame, 40s.; 6 frame, 60s.; crowded bees and brood; Queens, 7s.—GREEN, Bee-keeper, Laindon. s.93

ITALIANS.—Nuclei, with fertile queen bred from imported Italian queens, 42s. 6d.—MOORE, 31, Monmouth Road, Dorchester. s.104

1919 FERTILE Italian Queens, number now ready, 12s. 6d. each.—Goath Cottage Apiary, Endlebury Road, Chingford. s.105

STRONG 4-frame Nuclei, Italian hybrids, 40s. Immediate delivery.—SHAW, "Betula," Parkview Road, New Eltham. s.106

FOR SALE, now, 8 and 10-frame Stocks, £3 10s. and £4 5s.; Virgin Queens, 4s.; also 4-frame Nuclei from August 7, £2 2s.; all carriage forward; carriers returnable.—ASHWORTH, Heytesbury, Wilts. s.107

FERTILE 1919 Italian Queens, direct from France, August delivery, 11s. 6d. each.—ELLIOTT, "Westfield," Kelvin Road, Ipswich. s.108

FERTILE Young Queens, black or hybrid, 10s. 6d. and 12s. 6d.; selected Italian, 15s.; Nuclei on new wired combs; all from hygienic stocks.—A. TROWSE, Eade Road, Norwich. s.109

HARDY, natural-raised 1919 Fertile Queens, 4s. 6d. each.—WOOLDRIDGE, Woodleys, Winchcombe, Glos. s.110

SELECTED fertile 1919 Native and Hybrid Queens, 10s. each; safe arrival guaranteed.—PEARSON & GALE, Marlborough. s.112

SATISFACTION guaranteed, or money returned in full.—Strong 4-frame Nuclei (3 frames brood), 1919 fertile Queen, abundant stores, 45s., carriage paid; 3-frame Nuclei, 35s., carriage paid. Ready now.—PEARSON & GALE, Marlborough. s.112

THREE-FRAME Nuclei, on standard wired frames, 37s. 6d.; box 5s., returnable.—W. WOODS, Normandy, Guildford. s.113

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free. —F. RUMMING, 60, West Avenue, Oldfield Park, Bath. rs.87

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . In a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

STRICTLY Business.—More celebrations. 12 packages Flavine will be sent free with every order for a japanned sprayer (5s.) received between to-day and July 31.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.82

1919 GUARANTEED Imported Fertile Golden Italian Queens.—Now having regular supplies, can despatch at very short notice. 13s. each; selected, 16s.—GOODARE, New Cross, Wednesfield.

QUEEN Rearing and rapid increase Outfit, with British and American instructions, 15s. 6d. Swarming impossible with our right up-to-date appliances.—MEADOWS, Syston, Leicester. q.122

Italian Queens direct from Italy.

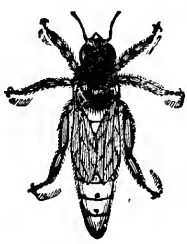
Address:
E. PENNA, BOLOGNA, ITALY.
I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-
In May the queens dead in the journey have been less than 4 per cent.
Orders are booked in rotation.
Price List on application.

TO CLEAR.

W.B.C. Ends for brood frames 3s gross.
Ditto for shallow frames, 3s. 9d. gross; postage 6d.
Sections, 4¼, two and four-way split and grooved, 100, 7s. 6d.; postage 1s.
Excluders, 2s. 3d. each; postage 6d.
Metal Dividers, for 3 sections, 2s. doz.; postage 9d.
Wood Dividers, 1s. doz.; postage 4d.
List on Application. Established 1878.
WALTON & CO.,
MUSKHAM WORKS, NEWARK.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

ITALIAN QUEENS



Direct from Italy.

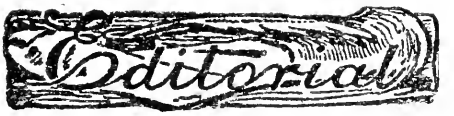
Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.
For 1 Fertile Queen: July, Aug., Sept., 12/-

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.



Bee Re-Stocking in Cornwall.

The Cornwall County Bee Committee, in conjunction with the newly-formed Bee-keepers' Association, are adopting excellent methods of making their bee re-stocking scheme a success. It is generally conceded that the greatest peril to the scheme all over the country is the danger of the nuclei becoming infected by contact with empty infected hives and combs. Of course, the best remedy is legislation to enable these sources of infection to be dealt with, but until that comes other methods must be adopted to abate the danger as much as possible. To do this the Cornwall County Bee Committee have sent round the following circular letter and poster:—

CORNWALL AGRICULTURAL EXECUTIVE COMMITTEE.
1, Adelaide Terrace,
Truro.
4th July, 1919.

Circular-letter to Parish, Urban and District Councils and Local Food Production Committees.

DEAR SIR,

COUNTY BEE COMMITTEE.

At the request of the Board of Agriculture and in co-operation with the Cornwall Bee-keepers' Association, my Committee have within the past few months endeavoured to assist the revival of the bee-keeping industry in the county and the efforts made have met with a gratifying response.

A scheme to restock the county with healthy bees is now in operation, but bee-keepers and many competent horticulturists are much concerned about the danger threatening the reviving industry because of *a relatively small number of infected, dirty and empty hives* still found in some districts.

In many of our Colonies careless owners of such hives are dealt with by law and similar action in this country is probable. In the meantime, and as the matter is urgent, the Committee and the Association ask you to be so good as to arrange for *the display of an appeal—as per specimen bill herewith—in Church and Chapel porches* in your area. Further, copies of the bill will be sent to you in response to a postcard, addressed to the Secretary, County Bee Committee, at this office, giving your requirements.

Several of the Cornish clergy are practical bee-keepers, and the co-operation of Church and Chapel officials generally is anticipated.

I am,
Yours faithfully,
W. PAIGE,
Chief Executive Officer.

To the Chairman or Clerk.

CORNWALL AGRICULTURAL EXECUTIVE COMMITTEE.

COUNTY BEE COMMITTEE.

CORNISH BEE-KEEPERS

APPEAL to OWNERS of DIRTY or INFECTED HIVES to CLEANSE or DESTROY them AT ONCE as such hives are a source of danger to healthy Bees and may contaminate the hives of a whole Neighbourhood.

For the benefit of the Craft Bee-keepers are also asked to remove all honey from "empty hives" (even if they are not infected), and render the hives bee-proof without delay.

APPLICATIONS for:—

Particulars of the scheme to re-stock the County with healthy bees, as well as information about the situation and ownership of infected, dirty or empty hives should be sent to—

HON. SECRETAY OF THE COUNTY BEE-KEEPERS' ASSOCIATION AND RE-STOCKING COMMITTEE,
Penwartha, Perranporth, S.O., Cornwall.
or The Secretary,
COUNTY BEE COMMITTEE,
1, Adelaide Terrace,
1 July, 1919. Truro.

Fumigating Combs.

We are often asked for a simple method of fumigating combs, and during the last week have had a very simple fumigating apparatus brought to our notice, of which an illustration and particulars will be found in our advertisement pages. Formalin is well known as one of the most powerful antiseptics and disinfectants, and its application by means of this little appliance is very easy and we should say effective. It has also the merit of cheapness, so that it is within the reach of all The gas from one tablet would be sufficient to disinfect 60 cubic ft., and there is a little over 1 cubic foot in an ordinary

brood chamber, so that one tablet is sufficient to effectively treat about 40 brood chambers each containing ten combs.

The inventors of this appliance had not the slightest idea of its being of any use in bee-keeping, until a bee-keeper and one of our readers tried it, and brought the fact of its usefulness in treating combs to the notice of the proprietors. We have pleasure in recommending the appliance to our readers.

Jottings from Huntingdonshire

Our bees, unconscious of the Peace celebrations, were rather disgusted with last Saturday's weather, so much so, that any strangers going near the hives were reminded that the honey-gathering insects were as ready as ever for war.

I presume most readers are familiar with Landseer's famous picture, Peace — a peaceful landscape, with sheep and goats enjoying each other's company. This means more to the uninitiated than would at first sight appear. Sheep and goats, like Jew and Samaritan, have no dealings with each other. Put them in the same pasture and there will always be a feud, and at the least feelings of estrangement. But if any living artist wants to make himself famous for all time, let him, or her, depict on canvas a goat or two browsing happily near a hive of bees, and unmolested.

One of my goats—as goats will—a short time back broke loose from her tether, and sought out a choice spot for browsing. She chose a hedge near one of my Ligurian stocks. Before I could get to the rescue a battle took place. The bees being the aggressors. Several sharp stings on nanny's nose roused her ire, she retorted with a vigorous butt against the hive, which shook it off the bricks on which it was standing, and left it at an angle of 75 degrees. Needless to say the bees within were not prepared to allow this, so they came out to ascertain the cause. They soon learnt. Poor goat! Luckily she had a long coat, so that the majority of the bees which settled on her back were unable to reach her skin with their stings; but she had a warm time in the region of the mouth, and was just about to send the hive flying into the hedge when I arrived on the scene and prevented the catastrophe. I had to pull her away with sheer force, so angry was she. But the battle was not over. I tethered her some distance away near a juicy hedge, while I went to get some lotion to dress her stings, and returned to find her venting her spleen upon the hedge. The bees had located her and were treating her to another attack. This time I took her some 200 yards away, but the Ligurians would not leave her alone, and not until I had smothered the poor goat with carbolic did they cease their warlike attentions. Nanny, however, who by the way showed no signs of swelling, has never forgotten. Goats never do forget, and to this day she only needs to be shown a hive and her wrath is kindled more than a little.

Last week I remarked how kind the farmers had been to us bee lovers in this part of the country. I had been rebuked for not mentioning what a service they have rendered the bees with their liberal use of *basic slag*. I beg their pardon. Users of *basic slag* will be aware that its action upon grass land has the effect of opening the soil and setting free millions of white clover seeds, which have been buried waiting, perhaps, for years to germinate. Some hundreds of tons of *basic slag* were used in and around Steeple Gidding last year, with the result, we frequently see fields carpeted with white clover. This is a great asset to bee-keepers. Personally, I am not in love with wholly white clover honey, but as Mr. Kettle has reminded us (I hope he is progressing towards recovery) one rarely gets, in an open district, a section filled with honey gathered from one source. Some of my sections have been filled with lime blossom honey on one side and bean and clover honey on the other. For the table I rejoice it is so. Charlock honey, when mixed with, say, lime honey, is a nuisance; but, as I said last week, we have very little of that pretty but trying weed about here.

I got a Dutch swarm three days ago, and, amazing things that they are, they have filled up three frames and are on the fourth. The swarm was not large, 3½ lbs. If we could cure Dutch bees of the swarming fever, and restock the country with nuclei, honey would soon be as plentiful here as in South America.

I have an order for a swarm of Ligurians from an old gentleman down Devonshire way, who is 94, and as keen on bees as ever. "Beeitis" isn't in it when almost centenarians are fever keen on bee-keeping.—E. F. Hemming.

The Wasp Nuisance.

HOW TO DESTROY NESTS.

In view of the large amount of damage done by wasps to fruit, and also the trouble they may cause in harvest fields, it should hardly be necessary to urge the destruction of wasps' nests. But since the work is too often postponed until serious losses have actually been caused, a timely reminder may not be out of place.

As many nests as possible should be dealt with during the present month before the rush of harvest. The old methods of destruction, involving the use of paraffin, sulphur, tar, etc., are effective enough, though more troublesome than the "cyanide" treatment, which, in careful hands, is the most satisfactory.

If about an eggspoonful of sodium (or potassium) cyanide be placed just inside the entrance to the nest the wasps will be "gassed" either inside the nest or as they enter. The work may be done in the daytime—an elder stick, hollowed out at one end to form a sort of "spoon," being useful for inserting the poison into the nest. With ordinary care there is no risk of being stung.

The chief point to remember is that "cyanide" is a most deadly poison, a very small dose being fatal to man. It should be labelled "Poison" and be kept in a stoppered bottle under lock and key, and it should be handled with the greatest care. Sodium (or potassium) cyanide can often be got from the local chemist, but for every purchase the "poison book" must be signed.—*Board of Agriculture Weekly Service.*

Twickenham and Thames Valley Bee-Keepers' Association.

This Association held its first exhibition on Wednesday, June 23, by the courtesy of the committee of the Twickenham Horticultural Society, who allotted ample space in a very prominent position in one of their tents on the occasion of their summer show.

The exhibits were judged by Mr. A. G. Gambrill, of Richmond, Surrey. The awards were as follows. The prizes were offered by the T. and T.V.B.K.A.:—

Class I.: Best three 1-lb. bottles extracted honey.—1, Mr. J. Curtis; 2, Mr. H. Fryer; 3, Miss M. Byatt.

Class II.: Best three 1-lb. sections.—1, Mr. G. Cox; 2, Mr. H. White; 3, Mr. C. Parks.

Class III.: Best shallow frame filled.—1, Mr. J. Curtis.

Class IV.: Best three 1-lb. bottles of granulated honey (any year).—No entries.

Class V.: Best exhibit of wax (1 lb.).—1, Mr. W. Jarvis.

Class VI.: Best home-made hive appliance (special credit given for originality).—1, Mr. C. D. Burnet.

Several of the prizes for open competition offered by the Horticultural Society for extracted honey and comb honey were won by members of our Association, among them being Messrs. J. Curtis and H. White, the secretary, Miss Byatt, and Miss Shaw being amongst the number who also secured prizes in open competition recently at Feltham.

The total number of entries was 23, and the standard was very fair taking into consideration the lateness and quality of the season.

Mr. Gambrill delivered two very interesting lectures in the course of the afternoon, which were listened to by large and enthusiastic audiences. His observatory hive attracted much attention, and reawakened keen enthusiasm in several spectators who had once been bee-keepers. Great hopes are entertained by the committee that our membership will be considerably augmented as a direct result of the kindly and appreciative references Mr. Gambrill made to our very recently formed Association and the "driving force" behind it.

Messrs. J. Lee and Son, Ltd., added much to the usefulness of the show by providing and staging a beginner's outfit and a quantity of apparatus. Their courtesy in so doing was much appreciated by members of the Association. A quantity of apparatus, including a large-size geared extractor, honey ripener and other appliances which, taken together, made quite an imposing exhibition, were lent by members for the occasion.

At the luncheon to the members of the Horticultural Association, at which Messrs. C. D. Burnet and A. G. Gambrill were invited to be present, the work of the Association and its scope of usefulness was referred to in the speeches following the luncheon, in terms which made it clear that those present were fully alive to the benefits to be derived by the fruitgrowers in the neighbourhood, as a result of the increased percentage of pollination and fertilisation of their fruit blossom which they are entitled to expect, and to profit by, on account of the large access of bees to the neighbourhood, not only from the apiaries of private members, but from the apiary of the Association which will be in full swing in the early spring.

The Association's exhibit was under the care of the hon. secretary, Miss Byatt, the treasurer, the Rev. Dixon Box, Mr. C. D. Burnet, Mr. C. Parks, and Miss Shaw, members of committee.

A number of the current issues of the *British Bee Journal* and of the *Bee-keepers' Record* were distributed, together with various leaflets published by the Board of Agriculture, analogous to bee-keeping, and a supply of the rules of the Association and other literature was available on the occasion.

If the interest taken in the show by members of the public in this neighbourhood, and the undoubted success thereof, is any criterion, the success of the Twickenham and Thames Valley B.K.A. is indeed assured.—*Communicated.*

Bee-Keeping at Truro.

FORMATION OF LOCAL ASSOCIATIONS.

With a view to encouraging bee-keeping in Truro and district, Mr. A. F. Knight gave a demonstration at Kenwyn Apiary on Saturday afternoon, July 12, and in the evening a meeting was held with the object of establishing a Bee-keepers' Association.

The demonstration was under the auspices of the Workers' Educational Association of Truro and District. Mr. Knight showed how to fit up a frame and wire it with foundation, and how to transfer a stock from a skep to a hive. Meanwhile he gave much practical information to the bee-keepers. At the close those present were invited to visit the apiary.

The evening meeting was presided over by the Rev. J. E. Edmunds, St. Allen, and it was stated that the object of the proposed bee-keepers' association for Truro and district was to encourage, by concerted action, a system of bee-keeping for bettering the conditions of the agricultural and other labouring classes. Addresses were given by the Chairman, Messrs. S. Webb, J. Crewes, A. F. Knight, and Lawrence, and a branch was formed, with the prospect of affiliation with the County Association, and, through it, with the British Bee-keepers' Association. The chairman was elected president, Mr. S. Webb vice-president, Mr. Knight hon. secretary and treasurer. These officers, with Mesdames Lawrence and Edmunds and Messrs. Lawrence and J. Crewes, were elected a provisional committee.

—*Communicated.*

Red Tape.

Have you ever worked in a Government office,
Sat on a Government chair,
Played with the papers, and files, and chits—
Wished them, oh, Lord knows where?

Have you ever studied the Red Tape
And its wonderful tricky ways,
Watched it twist and tangle itself
In a Government Ministry maze?

Have you followed a War Office Paper?
Lord! it's not like a Derby race.
It doesn't go straight for the winning-post,
And I don't think much of the pace.

It crawls into all the Departments,
Is examined in every one;
Placed in a jacket, and certified
Long ere the race is run.

Have you seen it go out on perusal
And "necessary action, please,"
By D.F.M.s, D.D.O.S.,
And A.D.D.M.G.s?

It is filed, and noted, and stamped
Stamped, and noted, and filed.
Lord knows when it's coming back,
But it's no use turning wild.

It's out on its journey from M.F.Y.
Down into T.W.3.,
Over the road to M.F.A.,
All round the Ministry.

Have you ever seen it come home like a tired beast,
Lie panting at your feet?
Would you know the paper of months gone by—
Once fresh, unsoiled, and neat?

Its face is scarred, and scratched, and torn,
Its edges yawn and gape;
94, stroke M, stroke 246,
Lies strangled with Red Tape.

ANON.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Re Are Honey Shows Dead?

[9948] It is rather surprising that no one has written about the above question since your issue of June 12. As no one appears to follow it up, I should like to give my views with regard to the honey shows.

Entries would be fewer now than they were several years back on account of the "Isle of Wight" disease. Also, a man who has only one or two hives cannot compete successfully with an experienced man with an apiary of many hives. A bee-keeper has to show several times to learn the way to place his honey on the show-bench. A small man with a few hives

would feel he was spending extravagantly if he purchased the necessities for showing his honey. For instance, to show three shallow frames he needs three show-cases costing 7s. 6d. or 10s. each, also a packing-case to carry them to the show, and if he wins a first prize this would only amount to a matter of 5s. or 10s.

Then to show bees-wax. Some shows ask for 2 lbs. at least, and how can a man get this quantity of good prize bees-wax from two hives? He would have to save the wax for several years before he had sufficient.

Then to show sections. Sometimes the very best comb-honey in the show is disqualified because the sections are slightly over-laced, or because they are put in a home-made box and screwed down. The bee-keeper probably thinks that his comb-honey is poor quality, and does not know that he has excellent comb-honey wrongly staged. He feels humiliated and disappointed, and disinclined to show another time. It is very difficult to lace sections and leave 3½ in. clear space. The easiest way to show sections is to buy the glass boxes, but here again the small exhibitor hesitates because of expense, and the first prize for sections would probably only be 10s. Sometimes the sections get slightly cracked in transit, even when they have been properly packed in an expensive case made especially for sections with springs to prevent jolting. These, again, would be disqualified. Sometimes the sections are glazed just a little too closely to the comb, and are disqualified because one or two cells are touching the glass.

With regard to bottled honey, the bee-keeper must buy the correct jars for the show-bench: the jars must not exceed 6¼ in. in height, or his honey will be disqualified.

These are some of the little difficulties the inexperienced bee-keeper has to overcome before he can win prizes, and he can always get a good price for his honey without winning prizes.

Then some of the experienced bee-keepers show the same samples of bottled honey year after year, winning first prize each year. This honey is known to the little bee-keepers as "cooked honey."

I have no personal grievance, or I should not have written this letter. I have been very successful and satisfied with the result of my exhibits. I am writing this hoping to help less fortunate bee-keepers. I should like to mention that the prizes I have won have never paid the expenses for exhibiting the honey, although at one show I won five first prizes and one second for six exhibits. I think this proves that a small man, with only two or three hives, can ill afford to show his honey, seeing that he can sell all his own at just as high a price although it is not prize honey. This owing to the shortage of English honey.

I certainly think that honey shows do good, as they make the bee-keeper keen to get the best work from his bees by good management and attention to his hives; and they teach him to put the honey on the market in its best possible condition. Also, honey shows encourage the visitors to the show-tent to join the ranks of the bee-keepers. The judges appear to me to give more marks for the staging of the honey than for the quality of same.—J. S. T.

[Some of our correspondent's statements appear to be made under a misapprehension. We know from experience that the man with only a few hives stands quite a good chance of winning prizes. He may not do it the first time he exhibits, but if he visits shows he will, if possessed of ordinary intelligence, soon become educated as to what is required for the show-bench, and find the experience gained will enable him to also put his honey on the market in a more attractive form and to realise better prices. A man who is handy with tools can make his own cases for shallow combs; nor is it a difficult matter to glaze sections neatly. The rule against over-lacing was an absolute necessity, as some exhibitors only left about a square inch of comb visible in the centre of the section, the rest being hidden by paper. The safest way is to leave more than the 3½ in. There is no penalty for under-lacing.

No judge will disqualify sections that have been damaged in transit. We have seen one or two sections, and also jars of honey, so smashed up in transit that it has been impossible to stage the stipulated number, but the remainder will be staged and judged if the judge is satisfied that the correct number were despatched. If a section is damaged by the glass being too close to the capping and damaging it, the fault is the exhibitor's, and is one of the things he will learn not to do, either for the show-bench or market. The height of the jars is no handicap, as 6¼ in. is the height of the ordinary 1-lb. round jar; but there is nothing to prevent a shorter and thicker jar being used, either square or round. We have done a fair amount of showing, but never bought special bottles for the purpose. We simply picked the best out of those used for bottling honey for sale. The cases of the same honey winning prizes year after year are very rare. Honey that is continually warmed up will lose its freshness and aroma, and would stand no chance against that freshly gathered. We also know a little

about judging honey and wax, and are acquainted with practically all the judges at the large shows, and we can assure our correspondents that it is the quality of the honey that counts. No judge who knew his business would "give more marks for the staging of the honey than for the quality of same." On one point we quite agree with him, that the prizes won do not pay the expense of exhibiting, and in our opinion it is the expense that prevents many from trying what they can do on the show-bench.—EDS.]

Overworked Queens.

[9949] Please allow me a little space for this letter in reply to Mr. Cobb.

To begin with, I have mislaid BEE JOURNAL for June 19. I do not admit for a moment the nine statements Mr. Cobb mentions are facts at all; in fact, some are no doubt mere theories. A queen can certainly not be overworked. It is simply childish to argue that she can. Work her for all you can, give her every encouragement to wear herself out, and then requeen each year. That is the way to get honey. Annual requeening will, I think, help check "Isle of Wight" disease, and it certainly is a great preventive of foul brood. The shorter time a queen lives, the less likely she is to become diseased. What I said certainly does not mean that my queens "have been overworked and have possibly deteriorated"—that is nonsense. What it does mean must be obvious; but for Mr. Cobb's gratification I will explain. A queen in her first season lays much more freely than in her second, and in her second more freely than in her third, and so on, till her supply of eggs gets used up, if she is allowed to live so long. Therefore, by requeening each year you have always got a queen which is naturally inclined to lay as fast as is possible, and, therefore, more readily occupies greater space with brood. This yield of eggs by a queen has not the slightest bearing on disease. In fact, one would be inclined to say that the more powerful a layer a queen is, the stronger she must be in constitution.

In the second place, I do not for a moment believe that "Isle of Wight" disease is particularly more prevalent in frame hives than in skeps. Practically all the people I have known who have kept bees in skeps have been wiped out, and they simply give up and forget about it.

I think still that Mr. Stich, or Mr. Cobb either, will have some difficulty in explaining why the progeny of an extremely fertile queen should suffer from "*Senile decay*," and even more difficulty in explaining why a youthful bee suffering from "senile decay" should take "Isle of Wight" disease.

I repeat that there is no analogy whatever between the forcing of a hen for laying, and the providing extra room for a queen which is fed perfectly naturally all her life. Does not the fact that *the queen does go on laying*, prove that she is not "over-fed"?

There is no doubt that "Isle of Wight" disease is a great scourge here, but it is no use running after fantastic explanations like this, and the worst of Mr. Cobb's and Mr. Stich's theory is that, if acted on by bee-keepers, it would result in a relapse into a wretched breed of bees that would be no use commercially.

Let us rather try to breed queens to lay as many eggs as possible—you cannot have a queen too prolific—you cannot have one prolific enough.

And now just one hint to Mr. Butson and Mr. Jones. If you destroy the old queen five days before you introduce the new one, and introduce on sealed queen cells, destroying the queen cells four days later, you will practically never have a failure. If there is a honey flow, or you are feeding rapidly, it will "make assurance doubly sure." Mr. Butson should not have cut his cells out. A sealed cell in a hive is the greatest help there is to introduction. *Of course it must not be close to hatching.*—R. B. MANLEY.

Use of the Deposit System.

[9950] With reference to the article in THE BRITISH BEE JOURNAL on July 3 and 19, I. for one in future, shall use the deposit system, and anyone not complying with it will not have my custom (that is, a stranger).

In June, I wrote about a fertile queen. In a week I had a letter saying they were all booked up to a certain date; but I could have a virgin earlier. I sent the money, and in a few days the queen came. All the bees with her were dead and the queen scarcely able to crawl; in fact, she was dead in an hour. I wrote a letter, and sent the cage and bees back again. I waited for a fortnight and did not get a reply. Then I wrote again. On July 4 I had a post-card saying that he had booked another queen to come in rotation, but up to the present I have heard nothing more.

In another case I wrote to a man about some bees, sent the money, and the bees arrived. When I sent the money I asked the age of the queen. When the receipt came it said there was a this year's queen there; but when I removed them from the box to the hive I found three sealed queen cells, so I knew there was no queen there. I searched it then, and again next morn-

ing, but no queen could be found, but there was a comb with eggs and larvæ in all stages, which would have deceived most beginners. The queen cells were all crushed more or less, but I found a few days ago one queen had emerged but could not find her. I hope she is all right; but it was quite a week after I had the bees that she came out. I wrote to the man and asked him this question: "If there was a this year's queen there as you stated in your letter, why did you put in three sealed in queen cells?" That he has not answered. The day after I sent the letter he sent a telegram for me to send the bees back; but as he deceived me once, he might again about the money, so I kept the bees.

I am writing this to caution the novice in starting bee-keeping to get an expert, or one that understands bees, to look at them when they come, because they can easily be deceived by seeing a comb full of eggs, etc. I won the third class certificate 19 years ago, but though I have not handled a lot of bees for the last 12 years I had not forgotten that bees do not rear queens with a laying queen in the hive unless under the swarming fever. Hoping this will be a help to wouldbe bee-keepers and others, and a warning to use the deposit sysetm in dealing with strangers.—JOHN E. SHORT.

Large Swarms.

[9951] With reference to No. 9943, in B.B.J. for July 17, re "A Record Swarm," I would like to say I took a swarm on July 4 which weighed 8 lbs. I thought it was the largest I had ever seen, but on Friday last, July 25, I had a larger. I had a very large "Pettigrew" skep, and shook them into that. The skep weighed 5 lbs., and I was very much surprised on weighing it after the bees had all settled, to find it weighed 15½ lbs. This swarm weighed 10½ lbs. Each of these swarms was separate ones, and *not* two united.

I do not know if anyone has had a heavier swarm than these.—S. LITTLER.

[9952] I do not know what weight a really good swarm should be. This year I have had three over 6 lbs., and I think two of them were so extraordinary that they are worth mention. On May 31 a swarm weighing 6 lbs. 6 ozs. issued from a very strong stock. I put them on four combs of brood and six frames of foundation, and on July 16, after nearly filling a rack of sections and commencing work on the second rack, it threw a swarm weighing 7 lbs. 2½ ozs. When I examined the hive. I found ten queen cells and nine combs packed with brood and bees. I removed two frames of comb and all queen cells, and then returned the swarm. They are working well in sections.

I should like to hear if anyone can beat this record. Unfortunately during the wet weather the stock fed on the stored honey in the sections, as their brood chamber was full of brood, and only had one frame of stores.—ELEANOR GALE.

[The average weight of a swarm is about 4 lbs.—EDS.]

Candy and Disease.

[9953] One hears on all sides the suggestion that feeding with candy is the cause of bee dysentery. Perhaps my experience may be of interest to some of your readers. In the autumn of 1918, I had four stocks pronounced by the Surrey Bee Expert to be strong enough to winter without feeding. One was a 1917 swarm, two were early 1918 swarms, and the fourth was a small cast I took on August 14, 1918, and put into an old, leaky hive which got wet through several times. I had to change all the blankets. It was fed entirely on candy from the day I hived it until this summer, and it is the only stock which successfully survived the winter. Two of the others died of spring dysentery, and the third was left with about 100 bees. All the stocks stood in a row in a very exposed place.—LINDA M. ENTHOVEN.

Overworked Queens and "Isle of Wight" Disease.

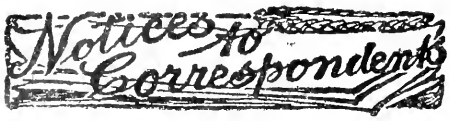
[9954] It was not my intention to enter into the discussion now proceeding under this heading, but as my name has been mentioned by two of your correspondents I hasten to point out that I nowhere made any such statement that "Isle of Wight" disease was connected with "overworked queens" (*sic*).

I am willing and desirous that my "theory"—I prefer to call it a simple hypothesis—should receive the most searching criticism, and I will do my best to explain any point which may prove obscure, but I decline to be drawn either into personalities or into a discussion of comparatively trivial details which only lead to a wilderness of useless argument. Along with the right to pull a statement or combination of statements to pieces goes the obligation to put forward something better. In no other way is progress possible.—H. M. STICH, Paisley.

Ruined by Honey Slump.

A debtor in Newcastle Bankruptcy Court showed a loss of £9,000 through the fall in the price of honey.

He bought at £220 a ton, the present price being £55 per ton.



Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

W. S. T. (London).—*Moving bees to heather.*—(1) We are afraid there is no district, within reasonable distance of London, where heather grows in sufficient quantity to make it worth while moving bees to it. Much depends on what you would consider a "reasonable" distance. (2) The length of the heather season depends on the weather; on an average probably from 10 to 14 days. (3) Heather honey cannot be extracted, except by pressing the combs.

A. Watkin (New Malden).—*Native* v. *Italian drones.*—We do not agree with our advertiser that "Italian drones cannot succeed where black drones fly." So far as we have been able to judge, Italian drones succeed quite as well as natives.

R. E. (Crowborough).—*Bees refusing to work in sections.*—The most probable reason is that the weather is too cold, and no nectar is being gathered.

W. W. (St. Asaph).—*Sulphur fumes for "I.O.W." disease.*—We do not think this would be effective. Better use formalin, or steep the combs in a solution of "Bacterol," "Izal," or "Yadil" and water. None of these would injure the bees, and if placed in an airy place for a day or two they would not spoil the flavour of honey subsequently stored in them.

A. R. F. (Selby).—*Making observatory hives.*—Instructions for this were given in the B.B.J. for March 12 and 26 and April 9 and 23, 1914. We can send the four copies for 1s., post free. The glass should be double, and covered with a shutter when the bees are not under observation.

A. Holman (Kent).—The queen has not mated.

T. Hammond (Totham).—The bees are Italian.

"Hafod" (Wales).—The queen was not older than 1918.

L. Woolton (Ilford).—Natives. You cannot follow a better plan for your purpose than the one you suggest.

J. Williams (Wales).—The drone had mated with a queen. The number of times a virgin flies out to locate the hive before mating will vary, and depend a great deal on the weather.

E. Gristwood (Folkestone).—We cannot say which queen it was you sent, but she had not mated.

J. W. McEwan (Caithness).—(1) Natives. (2 and 3) If the bees are healthy you cannot do better in your district than stick to those you have.

Honey Samples.

C. H. (Wilts).—The honey is very good, but lacking a little in flavour. It is mainly from clover.

Honey Prices.—Extracted honey from 2s. per lb. retail, to which should be added the cost of the jar or other container; sections from 3s. 6d. each. Wholesale from £10 per cwt. for extracted honey; sections, 36s. per dozen. These prices are approximate, and as near as we can judge from reports sent in.

F. F. Paul (Cheshire).—The honey is a heather blend of excellent quality. The more pronounced aroma and flavour is caused by a larger proportion of heather than usual. The mignonette and lavender would make very little difference unless you have large beds of them.

Suspected Disease.

P. Lythgoe (Lancs).—The bees are natives, and so far as we can see healthy.

A. N. Horncastle (Croydon) and H. C. Brace (Herts).—The bees were affected with "I.O.W." disease. Try one of the advertised remedies.

X. Y. Z. (Salop).—Natives, and suffering from "I.O.W." disease. The travelling and confinement would aggravate the symptoms.

W. J. L. (Bucks), H. S. Shaw (Birmingham), H. Tarbett (Newburn), C. K. (Swin.), W. Fretwell (Pinctun).—The bees were suffering from "I.O.W." disease.

R. Greenaway (Bodmin).—The drones appear to be healthy, and were probably killed by the bees.

W. P. Vassil (Althorne).—Hybrid bees, affected with "I.O.W." disease.

H. C. M. (Burnham Market).—The bees were Golden Italians, and suffering from "I.O.W." disease.

Lady de Bouverie (Salisbury).—There was no disease in the bees sent.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 5s. 6d., up to 15 lines 8s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

Wednesday, August 13, at Wye.—Kent Honey Show. 30 Classes, half of which are open to the United Kingdom. Valuable Cups and Prizes. —Schedules from Alfred Lepper, Wye, Ashford. **Entries close August 6.**

August 14, at Skegness, Lincolnshire.—Show of Flowers, Fruit, Vegetables, Honey and Poultry. Three Open Classes, Honey and Beeswax. Lectures and Demonstrations by Experts. 91 Classes Flowers, Vegetables, etc. (Local and County). 14 Open Poultry Classes. Good Prizes and Specials. Entries close July 30; Poultry, August 6.—Schedules, etc., from Hon. Sec., R. Johnson, North Shore Estate Office, Sunningdale Drive, Skegness

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Monday and Tuesday, August 18 and 19, Cannock and District Horticultural Society, at Cannock.—Classes for Honey and Wax. £12 in prizes and medals (Open Classes).—Schedules from John Bird, F.R.H.S., "Glenmay," Cannock.

Wednesday, August 20, Salisbury and District Bee-keepers' Association.—Honey Show at Heale Park, Woodford. Two Open Gift Classes for Honey in 1-lb. pots or sections. Prizes: 7s. 6d., 5s., 3s. for each class.—Apply, E. J. Hardy, Harncroft, Salisbury. **Entries close August 14.**

Saturday, Aug. 30, at Hinckley, Leicestershire and Rutland Bee-keepers' Association, in connection with Hinckley Flower Show.—Open Classes for Honey, Sections and Jars. Prizes, 12s. 6d., 7s. 6d., and 4s. 6d. in each class. Judge, W. Herrod-Hempsall, F.E.S.—Schedules from A. Kimbrell, Esq., Clarendon Road, Hinckley. **Entries close August 25.**

September 3, at Knutsford, Cheshire Bee-keepers' Association, in conjunction with Mid-Cheshire Agricultural Society.—Several Open Classes. Good prizes.—Schedules from J. Newns, Tabley, Knutsford.

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 3 and 4. Glasgow and District Bee-keepers' Association, in conjunction with the Glasgow and West of Scotland Horticultural Society.—Seven Open Classes for Honey and Appliances.—Schedule from Hon. Sec., Peter Bebbington, 65, Robertson Street, Glasgow.

September 6, at Bromley. Kent Bee-keepers' Association. Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries close August 30.**—Apply, to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.
One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ½*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE, Stocks, 6-10 frames, and few Nuclei, Dutch and Dutch Italian Bees, 10s. per frame, carriage extra; boxes to be returned. Cash with order, or deposit system if preferred. Inspection invited. — MUNRO, Kislingbury, Northampton. rs.120

SECOND SWARMS, 25s.; 6-frame Stocks, 45s., carriage forward; boxes to be returned.—BUTLER, West Road, Histon, Cambs. s.121

SIX-FRAME NUCLEUS, crowded healthy bees, 42s.; box 5s. deposit.—FURBANK, 10, Montague Road, Cambridge. s.122

WANTED, two lots Driven Bees; not less than 4-lb. lots.—LYTH, 281, Deansgate, Manchester. s.123

12 STOCKS for Sale, all in fine condition, five minutes from G.E.R. station, bargain; also guinea Extractor (Meadows), almost new, 40s.; several Section Racks complete, 4s. each.—GAMBLE, Battlesbridge, Essex. s.124

FOR SALE, several 8- and 10-frame Stocks, 1919 Queens, £3 10s. and £4 5s.; 4-frame Nuclei, £2 2s.; all carriage forward; carriers returnable.—ASHWORTH, Heytesbury, Wilts. s.125

SALE, six strong 10-frame Stocks Italian Hybrids, £4; with hives, £4 10s; moving cause of sale; box 5s., returnable.—LOUDWELL, "Glenwood," Kingston Road, Ewell, Surrey. s.127

SEVERAL STOCKS of Bees for Sale, £4, carriage paid; 15s. on box.—H. OBORNE, Guest Road, Bishopstoke, Hants. rs.126

FINE Stocks of Bees, on ten standard frames, £4.—VINCENT, 132, Croydon Road, Anerley. s.128

ONE strong Stock, with new queen and super full of honey, 50s.; three Nuclei, 25s. each; Italians, guaranteed healthy; also Hives and Appliances. Stamp for particulars.—HORSFIELD, 13, Lingard Road, Northenden, Cheshire. s.129

STOCKS FOR HEATHER.—Six strong, healthy Stocks Native Bees, on 10 frames, and supered, £4 each, carriage paid; delivery at once; boxes 10s. each, refunded when returned.—HILLMAN, Stonehouse, Glos. s.130

FEW surplus Queens for Sale, 1919, fertile, 7s. 6d. each.—CHEESMUR, Forest Apiary, Worth, Sussex. s.131

FEW fertile Hybrid, 1919, Queens, at 7s. 6d. each.—HUNT, "Fairview," Westmoors, Dorset. s.131

BEES for Sale on frames; overstocked. Particulars stamp, please. — RICHARDSON, Witchford Road, Ely, Cambs. s.132

W.B.C. HIVES.—A few good ones for Sale cheap.—GEARY, Enderby, Leicestershire. s.133

STOCKS on five wired frames, box free, can be used as temporary hive, 52s. 6d.—COX, 157, Camden Road, London, N.W. s.134

STRONG 4-frame surplus Nuclei, Italian hybrids, 40s.—BARNES, 20, Bourdon Road, Anerley. s.135

W.B.C. HIVE, with brood and super boxes, 10s.; Rapid Feeder, 16½ by 7½, 2s.; Rapid Feeder, 14½ by 10, 2s.; Rapid Feeder, 16 by 7, 2s.—HEATON, Methwold, Norfolk. s.136

WANTED, Geared Extractor. B.B.J. deposit. —Make, condition, price, to MERRETT, Ratfyn, Amesbury. s.137

HYBRID STOCK, crowded on 6 frames, 1918 Queen, £2 5s.; box 10s., returnable; deposit. —VEASEY, North Park, Eltham. s.138

FEW Stocks Italians, 10 frames, 1919 Queens, £4 4s.; box 5s., returnable; guaranteed healthy. Money refunded if they show disease in two weeks, provided they are hived in clean hives in healthy surroundings.—ROSLING, Summerlands, Paignton. s.136

OVERSTOCKED.—Ten Stocks Italians, 1919 Queens, 10 frames, guaranteed, £4 4s.; boxes 10s., returnable. Money returned if not satisfied.—Glynn Villa, Queen's Road, Chatham. s.140

TWO good Queens, black, fertile, 3s. 6d. and 5s. 6d.; the two, 8s. 6d.—MORTON, Steeple Grange, Wirksworth, Derbyshire. s.141

FOUR 5-frame Nuclei, Hybrid Italians; food and eggs all combs; disease free, and strong. Offers.—BLENKARN, The Lodge, Burford, Boxhill. s.142

FOR SALE, Hybrid Italian Bees on 10 frames, 1918 Queen. What offers?—QUINTON, Sligo. s.143

BEES.—Several strong, healthy Stocks to spare, also Honey. No "Isle of Wight" disease in the neighbourhood.—HAMER, Rhiwhiriaeth, Llanfair, Welshpool. s.144

EXCHANGE, a 7-roomed House, in centre of a Midland town, for a small Cottage with three acres and a small orchard.—Box 39, BEE JOURNAL Office, 23, Bedford Street, W.C.2. s.146

CRATES containing eight 14-lb. round Tins, lever lids, 5s. per crate; any quantity; cash with order.—SHERLOCK, Clockhouse, Beckenham. s.155

FOR SALE, Hives, Doubling Boxes, Section Racks, Excluders and other Accessories; also Honey Press.—MISS COOPER, 27, Claremont Terrace, York. s.154

HONEY for Sale, sainfoin and clover, in 28-lb. tins (£12 per cwt), free on rail, carriage forward; tins returned; sample 6d.; cash with order. —(MISS) B. NORRIDGE, Eastern House, Anna Valley, Andover, Hants. s.156

FOR SALE, two Hybrid Italian Stocks, 1919 Queens, nine bars, never had any disease, £3. —C. BRYAN, 5, Urban Road, Kirkby, Notts. s.145

THAT Floorboard Feeder would have kept the bees busy this year. Don't miss the Ventilated Cleaver Board.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.147

PURE ENGLISH HONEY for Sale.—12 dozen 1-lb. screw-cap bottles, £15, carriage forward.—TAYLOR, Mill Cottage, Hazeleigh, Maldon, Essex. s.151

TEN round 28-lb. Honey Tins, slightly soiled, 1s. 9d. each; five of 14 lbs., 1s. 4d. each; one 7 lbs., 1s.; 60 Section Racks, each 14 by 17, 1s. 6d. each, to clear; room wanted.—Box 38, BEE JOURNAL Office, 23, Bedford Street, W.C.2. s.114

WANTED, to rent, 6-roomed House (detached) with about ½ acre of garden, small orchard, or ground suitable for bee culture; near station.—ASHWORTH, Heytesbury, Wilts. rs.88

WANTED, three lots healthy Driven Bees; delivery first week August; not less than 4-lb. lots.—RICHARDS, Florence Villa, Ilfracombe. s.97

RECORD Stock of Bees, Italian strain, on 10 frames, and in three racks, drone base shallow frames, 100 lbs. honey ready for extracting; also five other good Stocks, each on 10 frames, all working in supers, free from disease; new (W.B.C.) Hives. What offers for whole, or part?—GEORGE LAKE, Witham, Essex. s.100

READY, end July, several 8-frame Stocks Hybrids, 1919 Queen, ready for heather, £3 10s. each; also Geared Extractor, in excellent condition, £2 2s.—BOWDEN, 167, Ellerton Road, Tolworth, Surbiton. r.s.68

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

THERE IS ONLY ONE QUEEN EXCLUDER—Wilkes' "Freeway." It has polished rounded wires for bees to pass through; over 50,000 in use; price, 15 in. by 15 in., 3s. 9d., post free. **There is only one scientific treatise** on swarm prevention—Wilkes'—fully illustrated, 1s., post free. The above are sold by all the principal Wholesale Dealers.—WILKES, Blossomfield, Solihull, Birmingham, formerly of Four Oaks. Winner of three 1st prizes at three Royal Shows.

STRICTLY BUSINESS.—For taking off surplus, for introducing queens, to unite weak stock, etc., use our Ventilated Cleaver Boards, wire cloth or wood with saw cuts and filled corners; price 6s. 6d., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. s.148

WANTED, best quality Honey.—Price and sample, WILLIAMS, 4, Victoria Arcade, Swansea. s.149

RE-QUEEN FOR NEXT SEASON: 1919 QUEENS. Imported Italian, 12s. 6d. each; English, 7s. 6d. Safe arrival guaranteed. Catalogue free. C. T. OVERTON & SONS, Crawley, Sussex. s.150

REGRET impossible to oblige all inquiries this season.—PRYOR, Breachwood Green, Welwyn. rs.152

HEALTHY Italian Bees, 6-frame stock, £3; 4-frame Nuclei, £2 5s., carriage paid; box 10s., returnable; 1919 Fertile Golden and Leather-coloured Italian Queens, 10s. 6d.; Hybrid Italians, 6s. 6d.—J. PALMER, Longford Farm, Market Drayton, Salop. s.153

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free. —F. RUMMING, 60, West Avenue, Oldfield Park, Bath. rs.87

1919 GUARANTEED Imported Fertile Golden Italian Queens.—Now having regular supplies, can despatch at very short notice. 13s. each; selected, 16s.—GOODARE, New Cross, Wednesfield.

QUEEN Rearing and rapid increase Outfit, with British and American instructions, 15s. 6d. Swarming impossible with our right up-to-date appliances.—MEADOWS, Syston, Leicester. q.122

Italian Queens direct from Italy.

Address:
E. PENNA, BOLOGNA, ITALY.

I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-

In June the queens dead in the journey have been less than 2 per cent.

Orders are booked in rotation.
Price List on application.

The editorial notes of July 3 have no reference to me.

TO CLEAR.

W.B.C. Ends for brood frames 3s gross.
Ditto for shallow frames, 3s. 9d. gross; postage 6d.
Sections, 4¼, two and four-way split and grooved, 100, 7s. 6d.; postage 1s.
Excluders, 2s. 3d. each; postage 6d.
Metal Dividers, for 3 sections, 2s. doz.; postage 9d.
Wood Dividers, 1s. doz.; postage 4d.
List on Application. Established 1878.

WALTON & CO.,
MUSKHAM WORKS, NEWARK.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON ROWE, 28a, Moy Road, Cardiff.

ITALIAN QUEENS

Direct from Italy.

Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.

For 1 Fertile Queen: July, Aug., Sept., 12/-

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur."

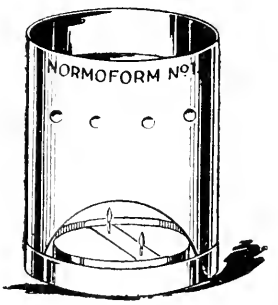
Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

SIMPLE. HARMLESS. EFFECTIVE.

THE "NORMOFORM"



PRICE, complete with candle and tablets,

2/9 each

(By post 3/-).

REFILLS - 1/6 each

(By post 1/7).

FUMIGATING DISINFECTING APPARATUS FOR COMBATING

"ISLE OF WIGHT" DISEASE.

Thoroughly effective for hives in which bees have died through disease, and more especially for combs from which honey has been extracted.

E.G.T. writes (21st July, 1919):—"I have used your 'Normoform' this year and have recommended it to friends, but in the interest of the craft I wish it were more widely known."

Sole Proprietors:

THE FORMALIN HYGIENIC CO., LTD.,

3, Lloyds Avenue, London, E.C.3.

EST. 1897.

The Bee World

Second Edition in the course of preparation.

The Largest Monthly Bee Publication in Great Britain.

¶ Devoted to the Practical and Educational progress of Bee Culture ; to the development of international co-operation ; and to the championship of the best interests of the Profession.

Home and Foreign Literary Correspondence cordially invited

Special Peace Number.

The Manager of the **Bee World** begs to announce that all spare copies of this number have already been exhausted, and that the very small margin of copies left will not even meet the demand of additional subscribers. It is to be hoped that those readers who can dispose of their copies will lend or sell to others in need of, as the first issue is now practically out of print.

Information concerning the **Government Scheme of Reconstruction** may be obtained from the Food Production Department of the Board of Agriculture in London. Independent efforts may be gathered from the Bee Press. Mr. Richard Whyte's illuminating article on " Isle of Wight Disease and Dutch Bees " merits special consideration in this respect.

To further facilitate literary competition entries will close on August 6 instead of July 30.

Referee : Junior Editor, **British Bee Journal.**

¶ For the establishment of an educational scheme of research and instruction, as aimed at by the **Apis Club,** at least 10,000 additional regular subscribers from Great Britain and abroad are needed. As a progressive apiarist, will *you* be one of them. Will you induce friends to help ? You may set a splendid example to others. *The co-operation of almost every bee-keeper in this country is solicited.*

*** To safeguard against future disappointments with issues of the **Bee World** you should subscribe immediately. Annual Subscription fee 2/6, post free. Membership of the **Apis Club** (annual subscription 2/6 to Smallholders and Cottagers, 4/- to members of other Associations, and 5/- to other candidates) permits of the free delivery of the **Bee World.**

Offices :

The Apis Club, Port Hill House, Benson, Oxon., England.

Editorial

Obituary Notice.

MRS. E. A. BIRCH.

We were very sorry indeed to hear the news of the death of Mrs. Birch, of Branaize, Okehampton, one of our most valued friends. Mrs. Birch was 76 years of age, daughter of the late John Massey, Esq., of Stagdale, Co. Limerick, Ireland, and widow of the late Brigade-Surgeon Lieut.-Col. E. A. Birch, M.D., F.R.C.P., Indian Medical Service.

Since 1907 Mrs. Birch's "Interesting Extracts" have been a feature of THE RECORD, and those who have taken it for that time and read the extracts must, like ourselves, have been struck by the wide range of books and papers from which they have been culled. Mrs. Birch was a great reader, and anything about bees was especially interesting to her.

Mrs. Birch first commenced bee-keeping about 1897, when a stray swarm of bees came to her garden at Bournemouth. This was hived in a lard bucket by a kindly neighbour, and was the beginning of her interest in bee-keeping. Shortly afterwards the family removed to Jersey and it was there she bought the first hive of bees, joined the B.B.K.A., and started bee-keeping in earnest. Three years later another move was made to Devonshire, the bees being brought over, and later a second hive being bought. Her frail health did not permit her looking after the bees herself, but her friend, Mr. Furse, the secretary of the Devon B.K.A., has been her willing helper. Although unable to handle her bees herself, she was well up in the subject, and possessed quite a library of bee books, both ancient and modern. For the 17 years she has lived in Devon her bees have been her great pleasure, and she delighted in giving her honey to hospitals and charities, as well as to friends. We first met Mrs. Birch when doing expert work in Devon in 1902, and shall not forget how considerate and kind she was. When in London she never failed to pay an all too brief visit to our office. She will be greatly missed by her many friends, for she lived a true Christian life, always gentle and kindly. One cannot imagine her giving utterance to an unkind word, and, needless to say, she had an influence for good on all around her. The world is poorer by her death, but the influence of such a life does not end with the grave.

THE LATE MRS. E. A. BIRCH.

Royal Show Fund.

Amount already acknowledged	£27	2	5
Lt.-Col. C. Weaver Price ...	0	5	0
Total	£27	7	5

A Dorset Yarn.

Home again among the bees. What a change after an enforced absence in hospital! The huge crowds of bees at each hive-entrance showed how great has been the increase; natural swarms that were given two drawn-out bars, and eight with whole sheets of foundation, were all perfectly full of brood and honey, all without any brace-combs. It is the same with Italians, hybrids, and blacks—all have gone in for wonderful increase. They have filled up the surplus racks given them, and run up comb filled with honey on tops of sections, up to the glass that covered them. They built the comb in graceful curves; it seemed too beautiful to be disturbed. Two large straw skeps with a top frame for surplus had been filled, and the rack of sections all started; yet the dry weather was against them. They must have gone to the large trees of lime and sweet chestnut; these have been very beautiful this year.

Everywhere now the hedgerows are covered with blackberries all in full blossom; bees are in crowds everywhere on them. White Dutch clover is very plentiful, but here the bees are not working the flowers much. The lotus clover is one sheet of yellow, but there are more bees on the scabious, more bees on the asparagus than on the clovers. It seems that weather makes a great difference in the production of nectar in the flowers; one is able to see this now that one cannot work. One can watch the bees, can hear the glad "song of content," can see them on the tall thistles by the roadside. The quiet lanes by the fields have so many flowers that bees like to hunt over. Our bees fly high; they are going off to the woods, though what they visit for so much nectar I cannot tell. The honey is dark in colour and has a delightful taste. My neighbours took off two racks for me on the 18th; on the 25th the new rack of sections was all drawn out and some of them capped over.

After an enforced absence in hospital, one saw a great difference on the farm as well as with the bees. Strawberries had finished; raspberries were a heavy crop—50 chip baskets a day at 4s. and 5s. each; black currants worked out 20 dozen lbs each row, 10s. to 15s. each dozen; gooseberries, 30 and 40 dozen lbs. each row, 6s. and 8s. per dozen. My sons have seen to the harvesting of them all. Some of the women pickers have earned quite a lot each week. We paid 6d. each dozen for gooseberries, and 1s. for the dozen of currants. From all these the bees had the first toll of the flowers, and now the surplus honey helps to swell up the grand total of the farm. The man, or woman, who wants to enjoy life, it must be where they can reap the reward of their labours, where each year marks progression, not "marking time." I have laboured this subject before; some of your readers will be throwing at me Herbert's lines—

"Some men are
Full of themselves and answer their own notion."

But with fields of beauty, plenty of fruit, with milk, butter, and honey, it is, as Ruskin wrote in "Modern Painters," "He who is closest to nature is best; here are hills and valleys, woodland and streams": and, as Scott wrote—

"Linnet, lark, and blackbird gay
Sing forth their nuptial roundelay."

J. J. Kettle.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, July 17.

Mr. T. Bevan presided, and there were also present Miss M. D. Sillar, Messrs. J. Smallwood, G. S. Faunch, G. R. Alder G. J. Flashman, G. Bryden, G. W. Judge, and J. Herrod-Hempsall, Association representatives, Messrs. R. R. Babbage (Middlesex), C. D. Burnet (Twickenham and Thames Valley), E. Ff. Ball (Bucks), P. E. Wagstaff (Mid. and West Herts).

Letters of regret at inability to attend were read from Messrs. T. W. Cowan, W. F. Reid, C. L. M. Eales, W. H. Simms, D. Bonvonni, Sir Ernest Spencer, Dr. C. C. Lord and Major F. Sitwell.

The minutes of council meeting, held on June 26, were read and confirmed.

The following new members were elected: Messrs. H. A. Brown, T. Baker, T. T. Taylor, A. P. Johnson, and E. T. Cordeux.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for May amounted to £25 3s. 5d., and for June to £40 7s. 10d. The bank balance on June 1 was £131 0s. 7d., and on July 1 £170 12s. 5d. In May payments amounting to £50 were recommended.

The report on Preliminary Examinations was presented, and it was resolved to grant certificates to the following: Mrs. Llewelyn Morgan, Mrs. M. K. Hodson, Miss H. L. Beaumont, Miss D. Y. Knowles, Dr. G. R. Strong, Rev. W. P. Jones, Major E. B. Wilkinson, Messrs. C. J. Heighton, R. Hancock, F. Tyler Taylor, G. R. Lusby, D. E. Bonvonni, M. Thomas, D. Davies, T. Davies, D. W. Walters, A. T. Hedger, C. Woodcock, E. George, and Hans Matthes. South Staffs, Buckinghamshire, and Kent Associations

applied for Preliminary Examinations, and all were granted.

It was resolved that bee-keepers be advised to charge not less than 2s. 6d. per lb. for extracted honey, and 3s. each for sections without containers.

Next meeting of council September 18, 1919, at 23, Bedford Street, Strand, London, W.C.2.

Notes from a Reader in Belgium.

My brother in Hull sends me an occasional B.B.J., and I like it very much. I have pleasure in enclosing a photo of part of my apiary, and if you think particulars would interest your numerous readers I send you some for publication. The Germans, I am pleased to say, overlooked my little place; others were not so fortunate, and hives, bees and wax were seized and sent on to the "Vaterland." I am told they extracted glycerine from the wax, and distributed bees and hives to their bee-keepers. I really think that it would have broken my heart if they had taken my little lot.

MR. M. G. LOWE AND HIS APIARY.

The photo represents the principal part of my apiary, which consists of 17 hives, two of which are double, and were all made by their proud owner, who is neither joiner nor mechanic. I mention this to show what can be done when the will is there.

The hives are called "Dadant-Blatt" hives, and measure 46 centimetres square and 33 centimetres deep, inside measure. The frames, 12 in number, are 425 millimetres by 275 millimetres, also inside measure. The lift is a box 46 by 46 by 16½ centimetres, holds 12 frames, and can hold 24 kilos of honey when well filled. The hives are all double-walled, and are covered with zinc. I work for extracted honey only, and find a ready sale.

During the war the honey was in great demand. In 1916 I got 8 francs the kilog. (2 lbs.), and in 1917 12 francs; while last year the price rose to 20 francs in Brussels, but I was glad to get 15 francs, at which price I sold 100 kilogs.

The price of swarms reached a fabulous height. A member of my society sold two swarms at 650 francs the two—a matter of £13 each!—and even now the price is simply absurd. The Germans bought every ounce of honey they could find—that is, when they didn't steal it—but they had none of mine, for by great good luck none of the soldiers I came in contact with knew anything about bees. Our honey harvest has been a good one, thanks to the fine weather in May, and I have just finished extracting for the second time this year. One hive has given more than 40 kilogs. of extracted honey. Swarms are rare; I seldom have more than two—this year three—and now all the hives are expelling the drones. I cannot think what the "Isle of Wight" disease can be; it is unknown here. But a neighbour tells me that some years ago he had a hive in which the young died in the comb, and dried up after being capped, so

that they rattled like peas when shook: but I've seen no sign of any kind of disease since I began in 1910.—MEDBOURNE GEORGE LOWE, 47, Rue du Fromage, Saventhem, near Brussels.

Jottings from Huntingdonshire

One advantage of the steady north winds and their grey skies and lowered temperatures is the discouragement given to the breeding of wasps and hornets. Last year, about this time, the wasps were a persistent pest around the hives, coming sometimes in such numbers as to force an entrance and steal the honey in all too large quantities. Contracting the entrance gives the bees an immense advantage, but we must not forget that wasps, like hornets, will catch bees and rip them open to get at the honey sac. It is, therefore, worth while to spend an evening examining banks and all likely places for a possible wasps' nest, and when one is located destroy the whole colony about sundown. This is much the best time to raid wasps' nests. A small quantity of paraffin and an armful of straw set alight is all that is necessary. The paraffin fumes will give the grubs their quietus, while the wasps on the wing as they return to their home are killed by the heat from the hot straw embers, or at least get their wings so singed as to prevent their flying more than a few yards at a time.

It is the opinion of many people that wasps will carry the "Isle of Wight" disease. I am rather doubtful. It is pretty certain that in the *planont* stage of *Nosema apis* the body of a wasp does not offer any convenient cells for penetration; nor does it appear that a wasp could assist this foul disease in the *meront* stage, when it reaches the last stage and becomes a spore, it is possible that a wasp might carry the parasite. But where would it carry it to? Its own nest, and that's the extent of its spreading. I have watched wasps many a time, and once they find a hive into which they can enter, they will work away at that one hive until the end of the season, and it is pretty certain that once wasps have forced an entrance into a hive—and where would they be more likely to do this than where a stock was weak through disease—they pay their whole attention to that one spot, and do not run the risk of being attacked by a strong stock of bees. Bees have worse enemies than the wasp. Swallows, for instance, will devour them by the dozen; the titmouse, too, will destroy hundreds in winter, by bringing them out with its tappings and other noises. Earwigs, the death's-head hawk moth, and the wax moth are all to be numbered among the bees' enemies. Naphthaform tablets will keep some of these at bay, as well as preventing foulbrood. It should be known, too, that the vapour these tablets emit are deadly to bee lice. This is important. Bees, lice free, are bound to be in a better condition to combat "microsporidiosis" than when their vitality is lowered by the tormenting of these parasites.

Going off at a tangent, what is the remedy for pigheadedness among bee-keepers? I have met two of this stubborn, obstinate breed during the past month. One has quite recently lost thirteen stocks of native bees. I advised him him to try and get some Ligurians, or Dutch, or Hybrids, as being better able to resist the "Isle of Wight" disease. He replied that he had been keeping bees for 26 years, and no one could convince him that any bees were better disease resisters than the "good old-fashioned English bee." On my calling his attention to the fact that the only thriving stocks in the neighbourhood were Dutch or Italian. He said this was a coincidence. He believed that if bees had got to have the disease they would have it, Dutch, Swiss, Italian, or any other sort. I bade him good-morning.

Individual No. 2 was, I'm sorry to say, a parson, who has been singularly unfortunate with his ten stocks of natives. Last year he managed to keep them going with spraying, re-hiving, etc., but did not get six pounds of honey from the whole lot. This year they are in a worse condition, and he has at last decided to destroy them with his skeps and bar frame hives. I advised him to give the bar frame hives a vigorous burning with the blow lamp, then soak in Izal for three days, re-paint and invest in a stock or two of Dutch-Italians, and start afresh, and gave him an outline of my success with these. "Insane madness to make such a statement that any bee could resist *Nosema apis* better than the bee indigenous to English soil." Such was his reply. Ah, well! I only hope he will soon be bitten with that madness.

In a village in the southern part of this county—Buckden by name—I hear many fruit trees have failed owing to lack of bees. It is a large village of about 1,000 inhabitants, and I understand has not a stock of bees near it. Yet it was once a noted place for bee-keepers. One man is going to try Italians. Let us hope he will convince many others to follow suit.—E F. HEMMING.

Sizes of Frames.

The following dimensions of the frames in use in different countries will prove useful for reference. Hives generally contain from eight to twelve frames:—

	in.		in.		in.	in.
Quinby	19⅝	×	11	and	18½	× 11
Jumbo	17⅝	×	11½			
Langstroth	17⅝	×	9⅛			
Adair	13⅜	×	11½			
American	12	×	12			
Gullup	11½	×	11½			
Heddon	18⅛	×	5⅜			
Danzenbaker	17	×	7½			
British Standard ...	14	×	8½			
Indian	11½	×	8½			
Do.	14	×	8½			

Portsmouth and District Bee-Keepers' Association.

The Portsmouth and District Bee-Keepers' Association held their third monthly meeting on Saturday, July 26th. Favoured with ideal weather, some thirty members journeyed to Emsworth, where they were the guests of Mr. R. J. Campion, a bee-keeper of many years' standing. After tea a move was made to the apiary, where Mr. W. Smith, the Association expert, demonstrated. Much interesting information was imparted, and the demonstration was a complete success.

This Association has been allotted a piece of ground in one of the local parks. From a stock of bees purchased this spring on behalf of the Association, there are now four prosperous colonies, and Mr. Smith hopes by judicious division next spring to have twelve colonies to distribute among the members. A show is being held September 10 and 11.—J. Sinnett, 154, Hon. Sec., Essen Road, Southsea.

Derbyshire Association.

The Derbyshire re-stocking scheme, under the able management of Mr. H. Hill, has resulted successfully—six stocks of Dutch bees and six Italian queens were received. The bees, in spite of passing difficulties, certainly fulfilled their reputation as prolific breeders, and have done well. The queens, though late in starting to lay, soon amended their ways, and, with one exception, have since done splendidly—that one unfortunately disappeared after being successfully introduced. Up to date all orders have been executed, 39 four-frame nuclei having been distributed. Reports to hand are very satisfactory, and in some instances where deliveries were among the earliest the nuclei have again split.

A six weeks' guarantee was given with each nucleus that if disease broke out, and bees were lost, the cost would be refunded.

Mr. W. Herrod-Hempsall, who made an inspection some time ago, congratulated Mr. Hill on his marked success.—F. Meakin

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Large Swarms.

[9955] Having read with interest the account of a large swarm of bees in your paper last week, I think, perhaps this will interest your readers. On May 29 I had a swarm weighing 5 lbs., which were hived in a 12-frame hive. On July 17, exactly seven weeks after hiving, I had a swarm from the first swarm weighing 8½ lbs. In addition to this I have had a rack of sections, 21 lbs. of honey, and at present they are working well on a second rack. The bees are hybrid Italians.—Thomas Chitty.

[9956] Herewith I send you cutting from the *Portsmouth Evening News*, June 4. A swarm of bees weighing over 12 lbs. Is it possible that a swarm has ever before been so large, or does this constitute a record? I have been a bee-keeper now for some years, and also a reader of your valuable journal. I must confess that I have never seen a swarm so heavy as this. I have had them 4½ to 5 lbs., and some only just over 2 lbs. I thought that 4½ and 5 lbs. were very strong swarms. I go in for the skyscraper hives, and I have some enormous colonies, but I am sure that no swarm from them would approach this weight. I shall look out in the Journal for any remarks you may care to make on this question:—"Mr. W. Elder, of North End, recently had an extraordinary swarm of bees, which when successfully taken weighed over 12 lbs. So large was the swarm that it could not be got into the ordinary "skip," and an additional box had to be used. According to its weight, it is estimated that there

must have been anything from 55,000 to 60,000 bees in the swarm."

[We should say this was another case of two, or more, swarms uniting. We should imagine that a hive large enough to send off such a swarm would tax any queen's egg-laying capacity to its utmost, and would be too large to become so overcrowded that the bees would need to swarm.—EDS.]

Re Dutch Bees Swarming.

[9957] In the JOURNAL of July 10 I see an article by Lieut.-Colonel W. B. Wallace on having difficulty with swarming.

May I say I have had the same difficulty partly from there being no honey about, owing to the very dry weather. The way I stopped the swarming was, after the bees came out a second time, having been returned two days before, and all queen-cells cut out, I found more queen-cells started and one good, ripe cell. The expert who was with me said, "Don't cut out these cells: leave them with this one ripe, capped cell, or your troubles will start afresh. The swarm you are now going to take, put in a hive with fresh foundation, and some drawn-out combs for the queen to start on, and leave the old hive until the queen has emerged, and you may expect a small cast about the 19th. The new queen may fly to look round, and some bees may follow her. Return the cast with the young queen, and the bees will destroy the other queen-cells by tearing them open at the sides, and swarming will cease. Don't feed the swarm you have in the new hive some distance away. Keep them busy comb-building. A few will try and go back to the old hive, and some will try and join the swarm, but they lose their scent and are unable to join the old queen" (that is, before the queen in the old hive has emerged).

My swarm I hived on the 11th has drawn out seven combs, as I had two old drawn-out combs. The queen started laying at once, which is not bad, as she is not a year old. I have given up the idea of getting any honey from the new swarm, or the stock which it left, but I shall nurse them for large stocks to winter.

It may be interesting to know the swarm weighed 5½ lbs., and the hive they left had an equal quantity of bees left, with two combs crammed with worker brood. I hope to find this way will stop the swarming. I have given the old stock a drawer-full of shallow frames under the brood nest.

I hope I have made it plain that it is wisest not to keep cutting out queen-cells. If one can find a ripe one, this method will stop this everlasting fever of swarming. My bees are hybrids: when they get the idea of swarming they do it with a vengeance. When hives and bees are in this condition, don't introduce a foreign queen; most likely they would kill her.—CYRIL TREDCROFT. Lt.

A Note from a Sailor's Wife.

[9958] My husband's name was placed on your "Roll of Honour" early in the war, but he has since then been seriously wounded in naval action on H.M. destroyer *Mohawk*.

Though unfit for sea service, he is still retained in the Navy, and at present attached to the Admiralty compass observatory, Slough, so now he has better facilities for carrying on his favourite hobby of bee-keeping on a larger scale.

The observatory was an old country mansion previously, and one of the battlemented towers was known to have been inhabited by bees for the last fourteen years or more. Last spring my husband removed them by taking up the lead roofing, they having built their combs between the rafters.

A swarm of bees was seen to enter the same place on the King's Birthday. My husband removed the bees the same day. This time he had to remove them with a shovel, as there were no combs. They proved to be a strong swarm of Italians, and are still strong and healthy, so they both made welcome additions to his apiary.

Wishing your paper every success, and all British bee-keepers a good season.—A. WELLS.

The Mating of Queens.

[9959] The following occurrence rather upsets one's ideas about queens mating.

A nucleus with one queen-cell: 8 p.m. on the 24th young queen heard "quahking": 9 a.m. on the 25th she was piping: at 8 a.m. on the 28th I found a mated drone dead inside the door.

Firstly, then, the queen must have mated rather before she was three days old. Secondly, as the drone was not there the night previously, and it was too stormy for bees to fly early this morning, mating must have taken place inside the hive, and during the night.

I may state that there was no other virgin queen in the apiary. Any explanation you can give will be esteemed.—C. ROYDS JONES.

[We should say the queen had flown out and mated. It is not possible for mating to take place except on the wing. —EDS.]

Forming Nuclei.

[9960] On page 21 of the BEE JOURNAL for 1919, an enthusiastic bee-keeper sent a method of forming nuclei. I do not know whether his enthusiasm was based on theory or practice,, but the following has been my experience:—

Having a stock on the point of swarming, *i.e.*, with capped queen cells, I decided to adopt this method. I accordingly divided the stock into four parts, carefully following out the instructions. Five days after as there was no sign of the bees having gnawed through the grass, I made an entrance in each of the three nuclei and examined them—the fourth nucleus being on the original stand had not been confined. In the first nucleus, when I made an entrance through the grass the bees came pouring out with a young queen; the latter settled on the grass, and when I went to catch her, flew off by herself. Fortunately, the bees had not destroyed the other queen cells. In the second there was an immature queen dead on the floor, a young queen and queen cells. In the third there was a dead virgin, which had apparently been balled, and two queen cells. In no case had the bees apparently tried to gnaw through the grass which was stuffed in very tightly as directed, but in all cases a number had worried themselves to death by trying to gnaw through the wood at the base of the brood-chamber.

This experience may be useful as a warning to bee-keepers who have outapiaries which they are obliged to leave for considerable periods.—E. F. LEDGER.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

Removing Damaged Combs.

[9889] I delight in the "B.B.J.," and read and re-read it, and thought it touched on every known bee subject. But, alas, the one occasion that urgent advice was sought it gave it not! nor any bee-book that I possess at present. Last Saturday, 24th inst., in boiling heat, two Dutch-Italian nuclei arrived from Surrey—48 hours on the journey, as bad luck would have it. Box No. 1 was duly unscrewed, smoke applied and lid lifted, to reveal one frame broken in two, and the combs of these frames loose!! Bees furious, honey everywhere, and two beginners to tackle it all! Well, we slipped some soft wire somehow under the combs, and wired them into position, saw the queen was safe, placed them in the prepared hive, and took a breather. But more was to follow. No. 2 contained one whole comb, three frames, and a mass of comb, bees, grubs, honey, and moss on the bottom of the box. Here was a nice problem for amateurs. The only thing to do was to shore up the combs with thin sticks and put nucleus box as it was into the brood chamber of the prepared hive, with the three damaged combs in it. On the top of that we put the brood box with the one good comb and two of foundation, covered them up and left them. By Monday they had drawn out a good deal of foundation, and were busy cleaning out dead bees and carrying in pollen, so one hopes that the queen is not smothered, and that they are storing the spilt honey in the new combs. Now comes the question, "What are *we* to do?" Would it be right to put *one* brood box on the bottom, and if we *can* get the queen out of the damaged combs, put her in the brood-box, and put the nuclei box on the top an excluder over it, for the hatching brood to work down. The difficulty is to get the queen, as the comb is solid on the bottom of nuclei box, and no frames to draw it up by. Any suggestion would be gratefully received and promptly acted on.

In this heat should not the combs have been strengthened with tapes? any jar was enough to shake them down.—MARIE CORBETT.

REPLY.—You cannot do better than place the damaged combs over the others as you suggest. If you fail to find the queen on the good combs, put the others in position, and before putting a queen excluder between them, blow smoke in at the top or place a carbolic cloth over the combs until most of the bees go below. The queen most likely will go with them. The frames should have some support at the bottom. A piece of wood, 1 in. square and long enough to fit tightly endwise in the box should have notches cut in at the right distance to take the bottom bars of the frames. This should be screwed to the bottom of the box, and when the frames are in position the bottom bars being held in the notches will prevent the combs moving and breaking.

Eggs not Hatching.

[9890] I shall be very pleased if you would give me your advice through the BEE JOURNAL. I have a 1919 Italian queen which lays eggs, but they do not turn into the grub as they should; they simply remain in the cells. What is the matter with the queen? Is she unfertilised and shall I kill her? Awaiting the favour of your reply.—E. MOSES.

REPLY.—This is a thing that does occur at times. Up to the present no satisfactory explanation has been found for it. The conditions are not caused by the queen being unmated. In those circumstances the eggs hatch, but only produce drones. In this case the eggs appear to be absolutely infertile, and do not hatch into larvæ at all. The only cure is to re-queen.

Re-Queening.

[9891] As a novice I should be very glad if you would give me some help with my bees. Though I started last summer, I didn't gain much experience, as I lost my stock in August with "Isle of Wight" disease. However, I read the JOURNAL and bee books hard all the winter, had a good clean up, and have begun again full of hope for better luck this time.

I started with a 4-lb. swarm of Italian hybrids, hived on March 28. By June 5 about six combs were drawn out and covered, and I put on a rack of sections. On Saturday, July 5, I examined the hive again, and found nine of the frames were drawn out, the tenth almost completed, and all were well covered with bees. This time I found the queen at once—my first sight of the lady. Very little was doing in the sections, but that, perhaps, was due to adverse weather conditions outside—certainly not because they were not warmly tucked up. When examining the hive I removed three queen cells, which were occupied, and what seemed to me the beginnings of several more. I want to know now whether I did the right thing; whether by so doing I prevented swarming, or whether the bees merely wished to re-queen themselves. I *believe* my queen is a 1918 one, but she might be older than I think. On the other hand, does not the fact that the bees are now on ten frames of comb prove her fairly prolific? I should be very glad of your opinion on this point. Arising from it is the question of re-queening. I meant to do it next summer if my stock came safely through the winter, but the JOURNAL seems to advocate doing it before the autumn. I hear people speak of importing Signor Penna's queens this summer for the purpose, but that sort of thing seems to me a risky and expensive undertaking with my one hive and lack of experience. I want to do the best for my bees, but do not wish to attempt any "fancy" proceedings, only suitable for experienced apiarists. What would be my best course in the circumstances?—M. T. (Enfield).

REPLY.—By cutting out the queen cells you probably prevented the bees from swarming. The queen you have is all right, or the colony would not have built up. As you are not certain of her age, it will be wise to re-queen, this may be done any time now. The sooner it is done the better. You can either send for one direct to Italy, or get one from a reliable dealer in England. We advise you to take the latter course.

Excessive Swarming.

[9892] Last spring (1918) I bought a stock of Italians on six frames, and although I crated up early no work was done in the super, but the bees swarmed four times, the first swarm coming out the end of May and the second two weeks later, and from this second swarm I had a swarm late in the summer about August 5.

The stocks were both strong this spring, and to the original hive I added a second brood chamber, containing ten shallow frames to see if this would check the swarming, the second brood chamber has been well filled, but again nothing has been done in the super, and my bees seem to have the swarming fever as bad as ever, as I have had two swarms from the original stock and four from the stock made from last year's second swarm. I have been through the stocks several times and cut out all the queen cells I could find, but this does not seem to have helped. I should be glad if you could give me any assistance through the columns of the JOURNAL as to what I can do to reduce the swarming.—D. NORTHAMPTON.

REPLY.—Try the plan of swarm control given in our Editorial in the BRITISH BEE JOURNAL for May 8. Re-queening with a strain not so prone to swarm might also help.

Weather Report.

WESTBOURNE, July, 1919.

Rainfall, 1·74 in.	Frosty nights, 0.
Heaviest fall, ·58 in. on 1st.	Mean maximum, 65·3.
Rain fell on 14 days.	Mean minimum, 50·3.
Below average, ·63in.	Mean temperature, 57·8.
Maximum temperature, 80 on 11th.	Below average, 2·7.
Minimum temperature, 41 on 31st.	Maximum barometer, 30·244 on 26th.
Minimum on grass, 36 on 31st.	Minimum barometer, 29·575 on 1st.

L. B. BIRKETT.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

Wednesday, August 13, at Wye.—Kent Honey Show. 30 Classes, half of which are open to the United Kingdom. Valuable Cups and Prizes. —Schedules from Alfred Lepper, Wye, Ashford. **Entries close August 6.**

August 14, at Skegness, Lincolnshire.—Show of Flowers, Fruit, Vegetables, Honey and Poultry. Three Open Classes, Honey and Beeswax. Lectures and Demonstrations by Experts. 91 Classes Flowers, Vegetables, etc. (Local and County). 14 Open Poultry Classes. Good Prizes and Specials. Entries close July 30; Poultry, August 6.—Schedules, etc., from Hon. Sec., R. Johnson, North Shore Estate Office, Sunningdale Drive, Skegness

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Monday and Tuesday, August 18 and 19, Cannock and District Horticultural Society, at Cannock.—Classes for Honey and Wax. £12 in prizes and medals (Open Classes).—Schedules from John Bird, F.R.H.S., "Glenmay," Cannock.

Wednesday, August 20, Salisbury and District Bee-keepers' Association.—Honey Show at Heale Park, Woodford. Two Open Gift Classes for Honey in 1-lb. pots or sections. Prizes: 7s. 6d., 5s., 3s. for each class.—Apply, E. J. Hardy, Harncroft, Salisbury. **Entries close August 14.**

Saturday, Aug. 30, at Hinckley, Leicestershire and Rutland Bee-keepers' Association, in connection with Hinckley Flower Show.—Open Classes for Honey, Sections and Jars. Prizes, 12s. 6d., 7s. 6d., and 4s. 6d. in each class. Judge, W. Herrod-Hempsall, F.E.S.—Schedules from A. Kimbrell, Esq., Clarendon Road, Hinckley. **Entries close August 25.**

September 3, at Knutsford, Cheshire Bee-keepers' Association, in conjunction with Mid-Cheshire Agricultural Society.—Several Open Classes. Good prizes.—Schedules from J. Newns, Tabley, Knutsford.

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 3 and 4, Glasgow and District Bee-keepers' Association, in conjunction with the Glasgow and West of Scotland Horticultural Society.—Seven Open Classes for Honey and Appliances.—Schedule from Hon. Sec., Peter Bebbington, 65, Robertson Street, Glasgow.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. **Schedules in Press. Entries close August 30.—Apply to** Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 10 and 11.—Portsmouth and District Bee-Keepers' Association, in conjunction with Portsmouth Allotments Association, at Town Hall, Portsmouth. Open Classes for Honey, Sections, and Shallow Frames, etc. Schedules from Hon. Sec., J. SINNETT, 154, Essex Road, Southsea.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE, Stocks, 6-10 frames, and few Nuclei, Dutch and Dutch Italian Bees, 10s. per frame, carriage extra; boxes to be returned. Cash with order, or deposit system if preferred. Inspection invited. — MUNRO, Kislingbury, Northampton. rs.120

SEVERAL STOCKS of Bees for Sale, £4, carriage paid; 15s. on box.—H. OBORNE, Guest Road, Bishopstoke, Hants. rs.126

SEVERAL healthy 8-frame Italian Heather Stocks, all headed by this season's raised queens, and packed with young bees, £4 each.—HUDSON, "Sunny Vale Apiary," Rockley, Retford, Notts. r.t.16

1 Hive, with 2 lifts, 2 racks, and 7 frames of Black Bees, £4 15s.; 8 Stocks Italian Hybrids, 10 frames, £3 15s.; several 4-frame Nuclei, £2; Boxes, 10s., returnable.—J. GARLICK, Tytherleigh, 17, Guest Road, Bishopstoke, Hants. t.14

10 STOCKS Hybrid Italians, guaranteed healthy, on ten frames, 1919 queens, in good, sound, nearly new hives, complete, £4 10s. each.—T. DOWNS, Hardwycke, near Wellingborough. t.15

L. E. SNELGROVE, Albert Quadrant, Weston-super-Mare, would be grateful to readers who would send him, with brief notes, specimens of live Bees (2 or 3 dozen) affected with "I.O.W." Disease, for scientific purposes. t.1

TWO Eight-framed Stocks of Bees for sale, £3 each.—YOUNG, Lansdowne Road, Alton. t.2

GOOD Stock British Bees, in sound, double-walled hive, 4 guineas; ungeared Extractor, £1; several Racks of Shallows, fitted foundation. —EDWARDS, "Oatlands," Brentwood Road, Romford. t.3

"CONQUEROR" Hive (double) wanted. Approval; deposit. For sale, end August, five very prolific Dutch-Italian 1919 Queens, 10s. each. —HOUSE OF MERCY, Maplestead, Halstead, Essex. t.4

HONEY for sale, light, fine quality, £10 10s. cwt.—WILLIS, New Leake, Boston. t.5

STOCKS, on six wired frames, in box suitable as temporary hive, 50s.—COX, 157, Camden Road, London, N.W. t.6

STRONG 10-frame Stocks, Italians, 1919 prolific Queens, £4 4s., box returnable, 10s.—ROSLING, Summerlands, Paignton. t.7

A FEW dozen first grade Sections. What offers?—ROSLING, Summerlands, Paignton. t.7

WANTED, Honey, in bulk, also Sections. State price per cwt. and dozen.—"COLEWOOD, New Road, Mitcham. t.8

SIMMINS' White Star Italians.—Surplus 8-frame Stock for sale, price 75s., carriage paid; box, 10s., returnable.—11, Friern Watch Avenue, North Finchley, N.12. t.9

BEES for sale, owner leaving district; 16 healthy stocks, price £5 each, including hives, or offer. Deposit.—Box 40. "B.B.J." Office, 23, Bedford Street, Strand, W.C.2. t.10

TEN round 28-lb. Honey Tins, slightly soiled, 1s. 9d. each; five of 14 lbs., 1s. 4d. each; one 7 lbs., 1s.; 60 Section Racks, each 14 by 17, 1s. 6d. each, to clear; room wanted.—Box 38, BEE JOURNAL Office, 23, Bedford Street, W.C.2. s.114

WANTED, to rent, 6-roomed House (detached) with about ½ acre of garden, small orchard, or ground suitable for bee culture; near station.—ASHWORTH, Heytesbury, Wilts. rs.88

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

STRICTLY BUSINESS.—Ventilated Clearer Boards, wire or wood, with Circular of Instruction, 6s. 6d., post paid; a Japanned Sprayer and 6 packages Flavine, 5s., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. t.11

THREE-FRAME Nuclei, 35s. 6d.,; Four-frame, 40s.; Eight-frame, £3 17s. 6d.; all on wired Standard frames, with fertile young queens.—W. WOODS, Normandy, near Guildford. t.12

1919 Fertile Italian Queens, by return, 12s. 6d.; Hybrids, 7s. 6d.—GOATH, Cottage Apiary, Endlebury Road, Chingford. t.13

RE-QUEEN FOR NEXT SEASON: 1919 QUEENS. Imported Italian, 12s. 6d. each; English, 7s. 6d. Safe arrival guaranteed. Catalogue free. C. T. OVERTON & SONS, Crawley, Sussex. s.150

REGRET impossible to oblige all inquiries this season.—PRYOR, Breachwood Green, Welwyn. rs.152

HEALTHY Italian Bees, 6-frame stock, £3; 4-frame Nuclei, £2 5s., carriage paid; box 10s., returnable; 1919 Fertile Golden and Leather-coloured Italian Queens, 10s. 6d.; Hybrid Italians, 9s. 6d.—J. PALMER, Longford Farm, Market Drayton, Salop. s.153

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free.—F. RUMMING, 60, West Avenue, Oldfield Park, Bath. rs.87

1919 GUARANTEED Imported Fertile Golden Italian Queens.—Now having regular supplies, can despatch at very short notice. 13s. each; selected, 16s.—GOODARE, New Cross, Wednesfield.

QUEEN Rearing and rapid increase Outfit, with British and American instructions, 15s. 6d. Swarming impossible with our right up-to-date appliances.—MEADOWS, Syston, Leicester. q.122

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON ROWE, 28a, Moy Road, Cardiff.

Italian Queens direct from Italy.

Address:
E. PENNA, BOLOGNA, ITALY.

I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-

In June the queens dead in the journey have been less than 2 per cent.

Orders are booked in rotation.

Price List on application.

The editorial notes of July 3 have no reference to me.

ITALIAN QUEENS

Direct from Italy.

Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.

For 1 Fertile Queen: Aug., Sept., 9/-

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

ENRICO BOZZALLA,
NOVARA——CREVACUORE——ITALY.

Colonies which have given their owner a large surplus are not infrequently much reduced in population after the close of the Nectar Flow. There is little brood, and the bees are mostly old.

Such colonies are very prone to an attack of "Isle of Wight" Disease, to avoid which a great deal can be done by requeening with a young, fertile, purely mated Italian BEFORE feeding up for winter.

Bozzalla purely mated Queens, Aug. and Sept., 9/6 each.

My Agent, Mr. H. M. STICH, Riccartsbar Avenue, Paisley, will be pleased to answer enquiries and to accept prepaid orders, but I would inform my customers that no queen bees can be supplied from Paisley by return of post. All Bozzalla Queens are mailed direct from my Queen Rearing Apiaries to the customer.

Obtain your Queens from Crevacuore where Apis melifica does not exist, and you will be sure of having Apis Ligustica Workers. Italian Queens are worthless unless they produce Italian Workers.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

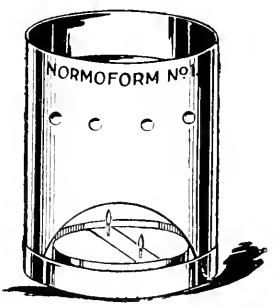
"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—
NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

SIMPLE. HARMLESS. EFFECTIVE.

THE "NORMOFORM"



PRICE, complete with candle and tablets,
2/9 each
(By post 3/-).

REFILLS - 1/6 each
(By post 1/7).

FUMIGATING DISINFECTING APPARATUS FOR COMBATING

"ISLE OF WIGHT" DISEASE.

Thoroughly effective for hives in which bees have died through disease, and more especially for combs from which honey has been extracted.

E.G.T. writes (21st July, 1919):—"I have used your 'Normoform' this year and have recommended it to friends, but in the interest of the craft I wish it were more widely known."

Sole Proprietors:
THE FORMALIN HYGIENIC CO., LTD.,
3, Lloyds Avenue, London, E.C.3.
EST. 1897.

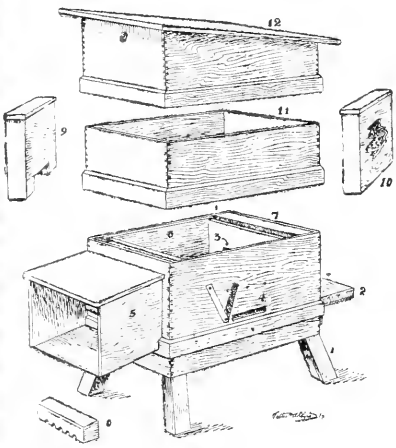
ANOTHER STEP FORWARD!

The Triumph of Quality.

Adminson's "Hygienic Hive." (Protected.)

The Trade is invited to examine the first experimental model of this new hive (at present accommodated at the Research Apiary of **The Apis Club**) with the view of co-operative production for the 1920 season. Models of other profitable inventions are now ready for inspection. Applications and letters of enquiry should be addressed to the Chairman of the Company. Entries close September 15th, 1919.

THE "HYGIENIC" HIVE



(1) Stand. (2) Detachable insulating floorboard
(3) Entrance in hive wall, corresponding to entrance of feeder.
(4) Side entrance, closed by swinging wooden and perforated zinc shutters (Removable)
(5) Detachable porch and platform (combined).
(6) Entrance shade.
(7) Feeder compartment.
(8) Brood chamber, capacity 12 frames and dummy.
(9) Detachable insulating wall for entrance side
(10) Detachable insulating wall, cut to show dry insulating material
(11) Lift, to take shallow frames, or sections
(12) Deep roof, to take section crate

Adminson's Bees.

Ready for the Heather!

A limited number of queens, nuclei and stocks are now available either for immediate or for early supply, within one week from receipt of order with price.

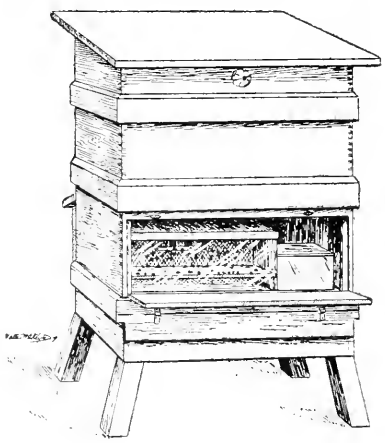
(1) Adminson's Virgin Queens ... ... 4 6 each.
(2) Adminson's Selected and Tested Fertile Queens (1919) ... ... 17/6 each.
(3) Strong 3-combed nucleus with Selected and Tested Fertile Queen (1919) ... £3 3 0
Carriage Paid. For travelling box – 10s. deposit, returnable.
(4) Well developed colony on Six Combs with Selected and Tested Fertile Queen (1919) £5 5 0
Carriage Paid. 16s. returnable deposit on travelling box.

Terms: Cash with Order. Applications that cannot be accepted will be immediately returned.

All bees are guaranteed healthy on despatch.

Our quotations refer to our **guaranteed minimum.** Our supplies in effect exceed it. This being our **last offer** for this season, those of our customers, who are in a position to develop nuclei or to profit by stocks in late and heather districts, or who wish to secure bees in advance for the coming season, are respectfully advised not to miss this opportunity.

Ten per cent discount permitted to all members of The Apis Club, also ex-service men.



THE "HYGIENIC" HIVE

Rear view, showing feeder compartment (with feeder in position) opened for inspection.

THE BEE WORLD.

Independent, Progressive and Practical.
The Largest Monthly Bee Journal in Great Britain.

The Manager of the BEE WORLD regrets to announce that through the unfortunate illness of the Editor, Nos. 2 and 3 will be issued simultaneously.

He takes the opportunity to also announce that the second edition of the First Number is again almost out of print and that no second editions are being entertained for future numbers.

As the BEE WORLD is only supplied to regular subscribers and to members of **The Apis Club,** orders for regular delivery should be given at once.

Offices:
Port Hill House, Benson, Oxon.

ADMINSON, Ltd., Scientific Apiarists **BENSON, OXON.** Telegraphic Code. A.B.C. 5th Edition.

Seasonable Hints.

The honey flow is now over—what there has been of it—except in districts where heather abounds. It will be well to remove supers wherever possible; the little nectar the bees are able to collect now will keep breeding going, and perhaps add a little to the winter stores. Sugar may now be obtained for bee food; particulars are given on another page. Do not be tempted to take away honey from the brood box. *Honey* is the natural food of bees, not *sugar*.

Requeening should be done as soon as possible now. If queens have not been reared for the purpose, it will be better to buy them, as it is getting too late this season to rear queens with a good prospect of getting them mated.

The bee-man's year commences with this month, and the work done now and the preparation made will to a great extent influence the harvest next season. If breeding is falling off, a little stimulative feeding will cause the queen to lay, and ensure plenty of young bees for wintering. A colony that goes into winter quarters with the majority of the bees more or less aged and worn out will dwindle rapidly in late winter and the spring. Those who intend to rear their own queens next year should make note of those colonies that have done the best during the past summer. Nuclei should receive constant attention, with the object of getting them strong enough to stand the winter. If eight frames of comb are crowded with young bees, and well stocked with sealed stores, by the end of September they will be all right.

A Dorset Yarn.

On August 2 the bees were working the blooms of Ailsa Craig onions; they have been open for a week, but bees did not go to them in crowds as to-day. They were on them before eight in the morning, and have consistently followed them all day. Why this should be so is beyond my comprehension. Each little flower that makes up the huge round ball is a perfect flower in itself; it has the two perfect parts for fertilisation in each individual blossom. But why should they leave them for a week and then take to them in a hurry? The men have been by them all the time. Each day, as one went to them at all times, only a limited number of bees were on the blossom until to-day.

Bees seem to be very conservative. They were evidently following some other unit of the vegetable kingdom, and carried on to the finish. Bees were flying high over the same field the whole week; have never heard their hum louder. Many of your readers may not care from what source the nectar comes, so long as there are plenty of stores collected; but with us at our farm we like to know each flower that gives them the most. Crowds have been over the sweet chestnut, also the huge oaks; one can hear a continual hum of thousands of bees away up in their endless ramification of branches. 'Tis the same on the limes. The time for flowers on each of them is past; it must be the sweet sap which has been forced through the young growths. The heavy rains would have washed off all aphides, so it cannot be from them. Books tell us that bees get a lot of stores from onions, and what is remarkable there is no smell or taste of onions in the honey after it is refined and capped over. The flowers are in wonderful profusion on each of the large clusters. It looks as though what the books say is correct. The seed is still expensive to buy, and we shall have both the seed to sow and the honey to sell.

One of my neighbours has taken off a large skep of honey that was placed on drawn-out bars last year when he was in the Forces in France. The bees had gone down into the bars and had filled the skep with honey. His empty hives were placed in an empty summerhouse to shelter them, and a stray swarm had taken possession of one, had all gone up into the roof and filled it and the lift, and had built comb among the empty bars. They have been there since last year. Not far short of a hundredweight of honey by the great weight of it. When we lifted off the top and lift, a lot of the bees came up with it. They took possession last year, and are now wonderfully strong. They do not look to have swarmed this season, as most of the comb was new. They could not have made a great deal last season. It is the first time that I have ever seen bees go to the far end of a building, quite 15 ft. from the entrance.—J. J. Kettle.

Jottings from Huntingdonshire

"It has been such a disastrous honey year that the majority of bee-keepers have been compelled to feed their stocks to keep them alive, and unless the Government wake up to the fact and set aside a quantity of sugar for bee-keepers, stocks will perish by the hundred during the winter."

"From all parts of the country comes

the same story of bees dying owing to the insufficiency of the honey flow this year, and unless something can be done to artificially feed the few remaining stocks in the country, Britain will be practically bee-less."—*Vide* Daily Press.

Doubtless in a few isolated parts of Great Britain there are some healthy stocks of bees able to get only sufficient to keep themselves going, but the above remarks are greatly exaggerated. One finds bee-keepers ready to clutch at any excuse for their lack of honey rather than confess to weakness of stocks through "Isle of Wight" or other diseases. Personally, had I a stock of bees which had been unable to store honey during the past lovely month of May I should be inclined to make a bonfire of it.

Now listen to this; it's not a fairy tale nor an American yarn, but the unvarnished truth—I can vouch for it. A lady living at Tansor, a village near Oundle, had a swarm of Dutch bees on May 24. They so established themselves as to be able on July 10 to themselves throw out a swarm weighing over 10 lbs.; on July 18 they swarmed again, the swarm weighing 4½ lbs.; on the 22nd they threw a cast of 4 lbs. Now, in addition to all this, over 26 lbs. of honey has been extracted from the shallow frames, and when I saw them ten days ago the super was again almost half-full.

Two weeks ago I was informed of a swarm of bees which had settled on a hedge about a mile away, the swarm having issued from a colony of bees which had for their home the roof of an empty house. My reply—thinking them to be natives—was, "I wouldn't defile a skep by taking them; they will sure to be in some way affected with the 'Isle of Wight' disease. Much better to burn them." Two days after I was informed the bees were still in the hedge, and would I come and destroy them, as they were a nuisance to the passers-by. I went, and to my surprise found them to be Ligurians. Needless to say, I soon had them in a skep and taken home, and asked if I might take the parent stock from the roof. Consent being very readily given, I mounted a ladder, and with hammer and chisel (the roof was of galvanised iron) set to work and soon got at the bees' abode. I found pounds and pounds of wax, but very little honey, and the great heat caused by the hot sun striking the iron sheeting had so acted on the wax, especially that newly secreted, that the cells were hopelessly misshapen. The bees seemed happy to get out of such an overpoweringly hot abode. Wheeling round, they clustered on a hawthorn branch, but before I had replaced the roof and got down they again took wing and disappeared. I gave them up as lost. Fortunately, however, they settled again about a mile away, and some labourers seeing them informed me of their whereabouts. I now have them hived, and they are working most happily, glad to be out of what must have been a stiflingly hot home. Knowing what Ligurians can do, I am confident, if reasonable weather continues, they will be able to establish themselves sufficiently to be able to go through the winter without artificial feeding. Another shock for the pessimist. There is plenty of honey about here yet, so much that a late-flowering lime now in full blossom is ignored by hive bees. It is alive with miner, carpenter, mason and humble bees, but I haven't yet seen a hive bee near it. Go to the bramble bushes, and we can see Italians by the thousand, as thick as flies, working the flowers. The Dutch seem much to prefer the white clover and the late bean blossom, not ignoring the mustard which is now in flower, and occasional visits to the blossom of the broom. Even the borage is discarded for the time being.

I introduced a Dutch queen (fertile) to one of my Italian stocks a month or so ago. She was well received, and began to deposit her eggs. This happy state of affairs did not last long. Another queen-cell was built, and her majesty of Holland was "balled." She came out and brought half the stock with her, and clustered on a tree branch 30 ft. from the ground. With great difficulty I skepped them, but only about a pint of bees stayed with the queen; the rest returned to the hive. At evening time I hived the queen with her few attendants, took out two frames of bees from the old hive and placed with them, and awaited the result. Not only did they all stay, but still more bees from the old hive attached themselves to the new home. One thought of a line from "The Village Preacher"—"Fools who came to mock remained to pray." I feel sure in this case bees that came to rob remained to stay. (Forgive the English of the last three words; poets are allowed such licence.) This, to me, new experience is valuable. How one is always learning something new! Bees are full of surprises. This reminds me how last year, in taking out sections, I accidentally dropped one at the foot of an ash-heap, where I let it stay. A few moments after this was discovered by both wasps and bees, and sundry fights took place. Ultimately it seemed to dawn upon them that while they were fighting honey was wasting. The wasps then kept to the one side and the bees to the other, and soon it was all cleared up.—E. F. Hemming.

Sugar for Bee Food.

Bee-keepers requiring a supply of sugar for feeding should apply at once to the Secretary of the Committee dealing with this matter in their respective counties for a registration form, which must be filled in and returned to the source from which it is obtained. A certificate will then be issued entitling the holder to 10 lbs. of sugar per stock any time up to December 31, 1919. This must be presented to the Local Food Committee, who will issue the necessary coupons for the amount allocated from his grocer. The address from which the registration forms can be obtained in each county are as follows :—

LOCAL AUTHORITIES DEALING WITH SUGAR FOR BEES.

England.

BEDFORDS.—The Secretary, Beds. Agricultural Executive Committee, 80, High Street, Bedford.

BERKS.—The Secretary, Berks. War Agricultural Committee, Shire Hall, Reading.

BIRMINGHAM.—A. E. Griffiths, Park Department, Council House, Birmingham.

BUCKS.—The Secretary, Bucks. Agricultural Instruction Committee, 63, High Street, Aylesbury.

CAMBRIDGE.—The Secretary, Cambs. War Agricultural Executive Committee, Botolph House, Botolph Lane, Cambridge.

CHESHIRE.—The Secretary, Cheshire Agricultural Executive Committee, Brookfield, Middlewich.

CORNWALL.—The Secretary, Cornwall Agricultural Executive Committee, 1, Adelaide Terrace, Truro.

CUMBERLAND.—The Secretary, Cumberland Agricultural Executive, The Viaduct, Carlisle.

DERBYS.—The Secretary, Derbyshire Agricultural Executive Committee, 12, St. Peter's Churchyard, Derby.

DEVON.—Mrs. Coldridge, the Secretary, Horticultural Sub-Committee, 37, Queen Street, Exeter.

DORSET.—The Secretary, Education Department, County Offices, Dorchester.

DURHAM.—The Secretary, Durham Agricultural Executive Committee, 25, Old Elvet, Durham.

ESSEX.—The Secretary, Essex Agricultural Executive Committee, Institute of Agriculture, Chelmsford.

GLOUCESTER.—The Agricultural Organiser, County Education Office, Shire Hall, Gloucester.

HANTS.—The Secretary, Hants. War Agricultural Executive Committee, The Castle, Winchester.

HEREFORDS.—The Secretary, Hereford Agricultural Executive Committee, Offa House, Hereford.

HERTFORDSHIRE.—The Secretary, Herts. Bee Committee, Estate Office, Woodhall Park, Hertford.

HUNTINGDONSHIRE.—The Secretary, Hunts. Agricultural Executive Committee, County Council Office, Huntingdon.

ISLE OF ELY.—The Secretary, Agricultural Isle of Ely Executive Committee, County Hall, March.

ISLE OF WIGHT.—Executive Officer, Isle of Wight Agricultural Executive Committee, 51, Lugley Street, Newport, I. of W.

KENT. — The Secretary, Kent Bee Development Committee, 5, Lower Stone Street, Maidstone.

LANCS.—The Secretary, Lancs. Agricultural Executive Committee, County Offices, Preston.

LEICESTERSHIRE. — The Secretary, Leics. Agricultural Executive Committee, 6, Millstone Lane, Leicester.

LINCOLNS.—The Secretary, Lincs. Agricultural Executive Committee, The Castle, Lincoln.

MIDDLESEX.—The Secretary, Middlesex Education Committee, Guildhall, Westminster, S.W.1.

NORFOLK.—The Secretary, Norfolk Education Department, Shire Hall, Norwich.

NORTHAMPTONS.—The Education Secretary, County Education Offices, Northampton.

NORTHUMBERLAND.—The Secretary, Northumberland Agricultural Executive Committee, 3, Newgate Street, Morpeth.

NOTTS.—The Secretary, Notts. Agricultural Executive Committee, Milton Chambers, Milton Street, Nottingham.

OXFORD.—The Secretary, Oxfordshire Agricultural Executive Committee, 12, Beaumont Street, Oxford.

RUTLAND.—The Secretary, Rutland Agricultural Executive Committee, 42, High Street, Oakham.

SHROPSHIRE—The Secretary, Shropshire Women's War Agricultural Committee, Horticultural Section, 24, Dogpole, Shrewsbury.

SOKE OF PETERBOROUGH.—The Secretary, Soke of Peterborough Bee Committee, St. Mary's Street, Whittlesea.

SOMERSET.—The Secretary, Somerset Agricultural Executive Committee, 5, Graham Road, Weston-super-Mare.

STAFFORD.—The Secretary, Staffs. Agricultural Executive Committee, County Buildings, Stafford.

SUFFOLK (EAST).—The Secretary, East Suffolk County Education Committee, Education Office, County Hall, Ipswich.

SUFFOLK (WEST).—The Secretary, West Suffolk Agricultural Executive Committee, Crescent House, Angel Hill, Bury St. Edmunds.

SURREY.—The Secretary, Surrey Education Committee, County Education Office, Kingston-on-Thames.

SUSSEX (EAST).—The Secretary, East Sussex Agricultural Executive Committee, Mountfield House, Lewes.

SUSSEX (WEST).—The Secretary, West Sussex Agricultural Executive Committee, County Hall, Chichester.

WARWICKS.—The Secretary, Warwickshire Agricultural Executive Committee, Horticultural Branch, 12, Northgate Street, Warwick.

WESTMORLAND.—The Secretary, Westmorland Agricultural Executive Committee, 12, Lowther Street, Kendal.

WILTS. — Wilts. Agricultural Executive Committee, County Offices, Trowbridge.

WORCS. — The Secretary, Worcs. Bee Committee, Webbs Farm, Lower Bentley, Bromsgrove.

YORKSHIRE.—The Clerks, Joint Agricultural Council, Yorks. Council for Agricultural Education, County Hall, Beverley.

Wales.

ANGLESEY.—The Secretary, Anglesey Agricultural Executive Committee, 73, Mona Street, Amlwch.

BRECONS.—The Secretary, Breconshire Agricultural Executive Committee, The Elms, Struet, Brecon.

CARDIGANS.—The Secretary, Cardiganshire Agricultural Executive Committee, College Street, Lampeter.

CARMARTHENS.—The Secretary, Carmarthen Agricultural Executive Committee, Llanddarog, Carmarthen.

CARNARVONS.—The Director of Education, Education Offices, Carnarvon.

DENBIGHS.—The Secretary, Denbighshire Agricultural Executive Committee, Dinam, Llanrwst.

FLINTS.—The Secretary, Flint Bee Committee, Council Offices, Broughton, Chester.

GLAMORGAN.—Chief Executive Officer, Glamorgan Agricultural Executive Committee, 34, Park Place, Cardiff.

MERIONETHS.—The County Secretary, Agricultural Offices, Queen Square, Dolgelly, Merioneth.

MONMOUTHS.—The Secretary, Monmouth Agricultural Executive Committee, 24, Bridge Street, Newport, Mon.

MONTGOMERYS.—The Secretary, Montgomery Bee Committee, 39, Salop Road, Welshpool.

PEMBROKESHIRE.—The Secretary, Pembs. Bee Committee, Pope Hill, Haverfordwest.

RADNORSHIRE.—The Secretary, Radnor Agricultural Executive Committee, Council Schools, Llandrindod, Wells.

Lazy Bees.

HUMOURS AND MYSTERIES OF RE-QUEENING.

I do not envy the man whose job it is to answer, or attempt to answer, all the questions fired at him by perplexed bee-keepers. In my own experience I have run up against problems in bee-keeping that do not seem to admit of any solution.

One of these problems resembles that of E. Moses in the JOURNAL for August 8, whose Italian queen lays eggs that do not hatch. Some years ago I bought a swarm headed by a fine large leather-coloured queen of the Ligurian or North Italian breed. The bees were hived on eight frames of foundation, which they drew out rapidly. In a short time the two end combs were full of honey, and there was a crescent of honey above the other six. As soon as there was a comb to receive her eggs the queen commenced to lay. As each comb was drawn out she filled it with eggs, until every comb was full of either eggs or honey. Then she began and went over all the cells again, depositing an egg or more in each. Again and again this was done, until most of the cells contained four or five eggs, and some had more. All this while not one of the eggs developed into a grub. And all this while the bees, having built their combs and stocked them with honey, contented themselves with loafing on the lighting board instead of working like their neighbours. They were also very irritable.

After about six weeks of this I decided to re-queen. Most of my friends thought the queen was at fault; others opined that the workers were to blame for not supplying the jelly to the incipient grubs. At any rate, there could be no doubt that it was one or other of these causes; that was what everybody said.

Well, the new queen came, and I put her in, and she was accepted immediately. And almost immediately her eggs began to hatch, and in a short time that colony became one of the strongest in the apiary.

But what of the old queen? I do not mind confessing that when I saw again what a magnificent creature she was, nearly twice the size of the new one, I was soft-hearted enough to refrain from putting my foot on her, as I had intended to do, and I lifted the quilt of an eight-frame stock that had gone queenless, and for which a new queen had been ordered, and dropped her between the frames to take her chance. At any rate, she might serve to "keep it warm" till the new queen came.

In eight or nine days the new queen arrived. Going to the hive, I pulled aside the end comb and lifted the second one, and there, sure enough, was the big leather-coloured queen, and the comb was full of eggs, none of which had appeared to hatch. "The same old game!" I exclaimed angrily, and in a second I had lifted her from the comb, and crushed her out of existence. Then I lifted a central comb to cage the new queen upon it. What was my amazement to find it full of hatching brood. The one next to it was the same, and the next, and the next. Two others were filled with eggs. They all hatched out typical Ligurians. I was never so much chagrined in my life.

But there is the problem, and as yet I have not had a satisfactory answer given to it. If the fault was the workers', why did they immediately begin to rear the new queen's young? If it was the queen's, what made her eggs prove fertile as soon as she had been transferred to the other hive?

That was not the only "born-tired" stock I have had, by a long way. I favour the Italians, but there are Italians *and* Italians, and some of those I have had would have broken the heart of a millstone. Persistent, convinced, and shameless malingerers they were, and desperately cunning withal. Queen all right. Plenty of nectar in the fields. Yet they would not store surplus in any part of the hive from which the queen was excluded. If I put on a super without an excluder, they all came up into it. If I inserted an excluder, with the queen below, after they had got to work in it, they all went below, and rather than work in that super again they would swarm, and swarm, and swarm. And when not swarming they would loaf.

To the particular stock of which I am thinking I gave a young queen of an Italian strain in the breeding of which I had taken considerable care, and I felt sure that her young would alter matters once they had grown up. But strangely, the bees of the old stock did not wait for that. In about a fortnight after the introduction of the new queen, they began to exhibit a degree of industry quite foreign to them before. They would speed out of the hive like little bullets fired from a gun, and on returning would hasten in to deposit their load with all possible speed. Long before any of the new queen's workers had flown the once lackadaisical stock had become one of the most industrious. I wonder what means the new queen employed to "buck 'em up" so effectively.

Still another stock of inveterate loafers I once had, which in one way and another gave me a good deal of fun. They were blacks, villains of the deepest colour, which I had purchased to act as nurses to some very light-coloured bees which I was rearing. A strange characteristic of theirs was that they *would* work a little when the weather was bad, but immediately it improved they did nothing but loaf about the alighting board, and in real bee weather when every other stock in the apiary was pulsing with life, their alighting-board was simply black with idlers. And it was not that they were overcrowded; there was plenty of room in their hive. I once knew an old fellow who ultimately found the way to a lunatic asylum. At first one of his peculiarities was his conviction that it was sinful to work when the sun was shining. Those bees were like that.

I gave those little niggers a queen that produced very active workers of a bright yellow colour. The new queen produced no regeneration as in the other stock. I suppose they were too far gone. But it became very amusing when her workers began to emerge from the hive. On a bright sunny day the crowd of lazy blacks found their tranquillity disturbed by the onset of a small but determined contingent of shining yellow bees, that hustled and jostled them about, and moved them on, just for all the world like little yellow policemen breaking up a crowd of dirty street-corner loafers. The blacks did not like it, but each day the khaki policemen increased in numbers, while the crowd of "corner-boys" grew proportionately less, and, finally, the dingy remnant, finding like the dove, no resting-place for the soles of their feet, gave up the struggle and fled. But I honestly think that none of them reformed till their time came to die. The laziness was in their bones.—Hugh Houston.

Monmouthshire Bee-Keepers' Association.

ANNUAL SHOW.

The first annual show of the Monmouthshire Bee-keepers' Association was held at Newport, Mon., on Tuesday, August 5, in connection with the Utility Show of the Newport Allotment Holders' Association. The entries were not numerous, but some of the exhibits were of very high quality. Two of the prize-winners at the Royal Show were again successful. The judges were the Rev. H. G. Stanley, Mr. B. Nicholas, and Dr. G. R. Strong. The awards were as follows:—

Open Classes.—Four 1-lb. jars of extracted honey (two entries): First, Mr. R. Hancock, 1, Railway Terrace, Rogiet. Second prize not awarded.

Four sections of honey (one entry): First, the Viscountess Rhondda.

One comb shallow or standard for extracting (one entry): First, Mr. P. Waters, Caldicot.

Open to Members of Monmouthshire B.K.A.—Four 1-lb. jars of extracted honey (light) (five entries): First, Mrs. L. Morgan, Underwood, Portskewett; Second, Mr. H. George, 2, Ifton Terrace, Rogiet; h.c., Mr. J. Burris, Kedwick.

Four 1-lb. jars of extracted honey (dark or medium) (two entries): First, Mrs. L. Morgan; second, Mrs. G. R. Lusty, Caerleon.

Four sections: No entry.

Two sections (one entry): First, Mrs. L. Morgan.

Half-pound of beeswax, in one cake (three entries): First, Mrs. G. R. Lusty; second, Mr. F. Matthews, Magor.

It is noteworthy that all the exhibitors save one were members of the Association. It is to be hoped that this will shortly be remedied. Demonstrations on bees were given on the field by the Rev. H. G. Stanley and Dr. Strong. The audiences were evidently greatly interested, and a good many questions were asked. A number of new members were enrolled as the result.—G. R. Strong, Hon. Sec., Mon. B.K.A.

Novelties for 1919.

The Stevenson 200lb. Skyscraper Hive W.B.C. Type).

Patent No. 18229/19.

The design of this hive, the dimensions and special roof, do away with many of the inconveniences experienced in using ordinary hives. The materials and workmanship are of the best, and delivery can be given within a week of order.

The principal feature is the roof, which from its special design and a very simple contrivance may be made to serve several purposes.

The hive has been designed by Mr. Stevenson and used by him with great success. Price and particulars may be obtained from the Croydon Aviation and Manufacturing Co., Ltd., 45, Oxford St., High Wycombe, Bucks.

Notice.

Will our readers please note that Mr. W. Herrod-Hempsall will be away from home for three weeks from this date, and will be unable to attend to correspondence for that period.

Large Swarms.

[9961] It may interest your readers to hear that at the end of July, 1908, a very powerful stock of hybrids swarmed one afternoon. They turned the scale at 12½ lbs. It was a dull and rather cold day, and the sun suddenly broke out about 3 p.m., when they came out. I was there and saw it, and it was not a union of two swarms in this case, at all events. They lighted on an outlying bough of an apple tree about 5 ft. from the ground, and their weight pulled the bough down till the bottom of the swarm rested on the ground.

You rarely get very large swarms in good bee weather, but rather when the bees are not working, as in this case.

I have several times seen it mentioned in the B.J. that your correspondents have cut out all cells and thereby stopped swarming. Never in my experience has it stopped it.

I have found a good plan to be to cut out all cells but one, and return swarm without the queen.—R. B. Manley.

Dealing with Advertisers.

[9962] Several instances of sharp practice on the part of sellers of bees have appeared in your pages recently, and you have very justly used them as a text to draw attention to the advantages of the deposit system. Nevertheless, I think it is as well to give a few instances of fair dealing, as we do not wish it to appear that all bee-keepers are rogues.

For restocking purposes the Monmouthshire B.K.A. had dealings with three advertisers in the Journal. With the first we booked ten swarms, paying cash in advance. This we did in view of the fact that I knew a bee-keeper who had had dealings with the gentleman in question last year. He was unable to supply the swarms by the end of June, and when writing to say so refunded the money.

From another advertiser we purchased four stocks. I suggested the deposit system, but he said we could pay after delivery of the bees. The stock we considered unsatisfactory, and returned. This was shortly replaced by a stock delivered on May 29, from which the purchaser has obtained three supers of shallow frames full of honey.

An advertiser to whom I had written in the spring, and who was then unable to supply, recently wrote offering six stocks. These we purchased, and again, on my suggesting the deposit system, the vendor agreed to cash on delivery. One of the stocks arrived queenless, and on being informed the seller at once forwarded a fertile queen. I may add that all the stocks are doing well.

To change the subject, Mr. E. F. Hemming, in your last issue, says: "Swallows, for instance, will devour them" (i.e., bees) "by the dozen." Is he sure of this? All that I have heard and read is to the opposite effect. Moreover, I have a stock of bees in a loft which has had several swallows' nests in it this season. The birds are flying in and out among the

bees all day, and although I have watched carefully I have never seen a swallow, there or elsewhere, kill a bee. What is the editorial experience?—G. R. STRONG, Hon. Sec., Mon. B.K.A.

[We have seen swallows take bees.—EDS.]

Re Large Swarms.

[9963] On May 13 this year I had a swarm weighing over 12 lbs., pure Italian bees. The stock was wintered on 20 combs, and at the time of swarming had drawn out another 10. I took a photo of the swarm, but, unfortunately, I could only get into a position to take the photo dead against the sun. From the top of post to ground, and also on ground, was a dense mass of bees which *well filled* two skeps.

I hived them on ten frames of foundation, and sold them two days later to a gentleman at Torquay for £4 4s. The weight at that time (less allowance for ten frames with foundation) was well over 10 lbs., as I satisfied the purchaser. Some of the bees I was unable to secure, as they were in the middle of hedge, so I should estimate the total weight at not much less than 13 lbs. No doubt some of the bees returned to the original stock, which accounts for there only being 10 lbs. in the new hive.

Ten days later I examined the swarm in its new hive. It then had 20 standard frames of comb drawn out, many full of brood and honey, and they were preparing to swarm again. I advised the owner to put another body under and a super over, and also cut out three queen-cells.

I can say with certainty that this was not a case of two or more swarms uniting, as I had examined all my hives except this one two or three days earlier, and not one was preparing to swarm. A neighbouring bee-keeper helped me to secure them, and would witness to the weight, as would the buyer of the swarm.—GEO. M. ROSLING.

The Way-room of Queen Excluders.

[9964] Does the modern queen excluder allow too much way-room? In the last three months I have had experiences which suggest that this may be the case:—

(a) During May I placed two new wire excluders on two strong hives. Above the excluders were frames of drone comb. One day I discovered drone eggs in both supers, worker eggs in a single frame of worker comb in one super, and eggs in both brood nests. Both queens had ascended through the queen excluder, laid eggs, and then descended again (they were found later on in the brood nests).

(b) On August 4 I was helping a friend with her hive when, to our surprise, we discovered young brood, above the excluder, in the super. We lifted the super, saw the queen (a very prolific one) running about on the excluder, and then and there before our eyes she made her way down through the queen excluder. This excluder is of the best modern zinc type. I can discover nothing out of order with either the wire or zinc excluders.—G. D. C.

[Small queens will at times get through an excluder. Some of our own have done it.—EDS.]

Forming Nuclei.

[9965] It may interest Mr. E. F. Ledger to learn that I tried the system, and it has succeeded. It is true the bees did not eat their way out, but I let them try for twelve days before releasing them. A few bees came out and ran about the alighting board and returned, and the following day all seemed well. On examining the frames on the fifteenth day I found what appeared to be a good queen.—R. OSWALD FORDHAM.

"Isle of Wight" Disease Cures.

[9966] Cures for "Isle of Wight" disease are legion: some experimenters claim success with one and some with another. I myself have tried three of them, and each has been a failure. Other bee-keepers have rung the changes on a dozen remedies from creosote to quinine, very few, if any, of which have ever been used for similar ailments of the human body, so evidently we are on the wrong line. I wish to suggest to bee-keepers a remedy which has the advantage of being useful for human ailments. A successful bee-keeper of my acquaintance always uses rum in his feeding syrup instead of vinegar, and in the same proportion, ¼ oz. to a pint of syrup. I have watched his bees for four seasons, and I have never seen a crawler, nor has he lost a single stock from "Isle of Wight" disease, and he is in the midst of an infected area. His bees are either immune, or rum keeps disease at bay. I have not been able to try it on a diseased stock, so cannot say if it would be successful as a cure. I don't claim that rum is the panacea for this scourge: I am only stating facts as they appear to me. I should like to hear of anyone trying it on a diseased stock, and the result.—W. GRIFFITHS, Stafford.

Swiss Bees.

[9893] In your valued paper of June 26 I was much interested in an article by D. M. Macdonald, Banff, in which he

speaks of the *non-swarming* qualities of the Swiss bees.

May I ask, if the Swiss strain of bees have this great quality, as well as many other good points through careful breeding, why has this strain of bees not been imported into England?—V. Shaw Kennedy.

Reply.—The Swiss bees alluded to are of the ordinary common race of black bees. Breeding stations are situated in isolated places in the mountains, where the breeding has been carried on for some years by careful selection, so that certain strains have been produced in which the swarming propensity has been greatly reduced and almost eliminated, the bee-keepers resorting only to artificial swarming. There is no reason why the same should not be done by careful selection with our own black bees. The Swiss breeders do not advertise in foreign papers, and we suppose our dealers have not seen their advertisements in the "Schweitzerische Bienenzeitung" which appears every month.

Combs from Other Hives.

A Source of Confusion in the Diagnosis of Nosema Apis in Adult Bees.

In March, 1917, the writer received for diagnosis from Cabarrus County, North Carolina (samples No. 5,324 and 5,325), a sample of dead bees and two brood frames containing honey, pollen, and a few dead bees with heads in cells. These frames were from the colony from which the dead bees had been taken, the colony having shown marked symptoms of dysentery earlier in the season with many bees dying. Microscopic examination of the large intestines from several of the dead bees macerated in salt solution showed large numbers of highly refractile oval bodies strongly resembling the spores of *Nosema apis*, the microsporidian parasite sometimes associated with adult diseases of bees.

To determine whether any of these spore-like bodies might be present in the honey of the colony from which the dead bees were taken, several square inches of comb, containing sealed cells of honey but no apparent pollen cells, were cut from the frames, and the honey was squeezed therefrom through cheesecloth. This honey was a clear, dark amber colour having a peculiar, somewhat bitter flavour and a disagreeable odour. On standing a yellow scum came to the surface, containing a large amount of pollen.

Several grams of this honey were dissolved in about 33 cc. of distilled water and centrifuged. Microscopic examination of the residue under a cover glass in a water mount, and with the high-power dry lens, showed what was apparently a large number of *nosema apis* spores and also many unidentified pollen grains of various shapes, large round ones predominating however. After accidentally crushing some of these pollen grains under the cover glass, it was found that several of the large round fairly smooth grains seemed to be packed full to overflowing with these refractile spore-like bodies. Also the microscopic field had become crowded with countless number of these bodies.

A second lot of honey was treated in the same manner, only this time the residue was washed several times with salt solution. Microscopic examination showed the same appearance, particularly after crushing with the cover glass.

Next, pollen from cells in the comb from which the honey had been taken was examined in a water mount in the same manner. These same spore-like bodies were found to be present only in much smaller numbers until the pollen grains were crushed as before, when the spore-like bodies again appeared in large numbers.

Pollen grains from combs taken at random from several different sources were then examined, but no such appearance was found in any of the samples examined.

Stained smears from the intestinal contents of the dead bees, and also from the residue after centrifuging the diluted honey gave no results, as these bodies seemed to have disappeared or been destroyed during the process of staining. Finally, some Gram's iodine solution was run in under the cover glass of a water mount of some of this material. Almost immediately these spore-like bodies turned a deep purple colour, and the pollen grains containing them turned almost black, giving what appeared to be a typical starch reaction. It was then found, aided by the kindness of the pollen laboratory of the H.K. Mulford Company of Glen Olden, Pa., that these pollen grains were from corn, and that although this is the most striking example of the presence of starch granules in pollen grains, most of the cereal grains show the same condition, but they are not found in pollen of other families.

These starch grains upon measurement and comparison with the size and appearance of the actual *nosema apis* spores were found to have just about the same measurements and shape, although the shape of starch grains was a little more

variable, often being more nearly round than the typical long oval.

Furthermore, it has been found experimentally that such materials as starch and dextrin are indigestible to bees, causing what might be called acute indigestion or auto-intoxication. Therefore, the presence of so much indigestible starch in the pollen food of the bees was probably a contributory factor, if not the actual cause, of the dysentery and death of so many of the adult bees in this particular instance cited.

Starch granules have since been found in a few samples received for examination. Therefore, it has since then been the custom after making a preliminary miscroscopic examination, to treat with iodine solution in the above manner all material from samples sent in for diagnosis of adult diseases, in order to prevent possible future confusion. This precaution should be taken in all such examinations.—ARNOLD P. STURTEVANT, Bureau of Entomology.

[Extract from the *Journal of Economic Entomology*, June, 1919, Official Organ American Association of Economic Entomologists.]

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

August 14, at Skegness, Lincolnshire.—Show of Flowers, Fruit, Vegetables, Honey and Poultry. Three Open Classes, Honey and Beeswax. Lectures and Demonstrations by Experts. 91 Classes Flowers, Vegetables, etc. (Local and County). 14 Open Poultry Classes. Good Prizes and Specials. Entries close July 30; Poultry, August 6.—Schedules, etc., from Hon. Sec., R. Johnson, North Shore Estate Office, Sunningdale Drive, Skegness

Tuesday, August 19, at Llanelly.—Second Annual Show of Flowers, Fruit, Vegetables, and Honey. Three Open Classes for Honey; also Open Classes in Other Sections. Valuable prizes offered in all classes. Schedules from Hon. Sec., W. J. Evans, 45, Coldstream Street. **Entries close August 15.**

Monday and Tuesday, August 18 and 19, Cannock and District Horticultural Society, at Cannock.—Classes for Honey and Wax. £12 in prizes and medals (Open Classes).—Schedules from John Bird, F.R.H.S., "Glenmay," Cannock.

Wednesday, August 20, Salisbury and District Bee-keepers' Association.—Honey Show at Heale Park, Woodford. Two Open Gift Classes for Honey in 1-lb. pots or sections. Prizes: 7s. 6d., 5s., 3s. for each class.—Apply, E. J. Hardy, Harncroft, Salisbury. **Entries close August 14.**

Saturday, Aug. 30, at Hinckley, Leicestershire and Rutland Bee-keepers' Association, in connection with Hinckley Flower Show.—Open Classes for Honey, Sections and Jars. Prizes, 12s. 6d., 7s. 6d., and 4s. 6d. in each class. Judge, W. Herrod-Hempsall, F.E.S.—Schedules from A. Kimbrell, Esq., Clarendon Road, Hinckley. **Entries close August 25.**

September 3, at Knutsford, Cheshire Bee-keepers' Association, in conjunction with Mid-Cheshire Agricultural Society.—Several Open Classes. Good prizes.—Schedules from J. Newns, Tabley, Knutsford.

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 3 and 4, Glasgow and District Bee-keepers' Association, in conjunction with the Glasgow and West of Scotland Horticultural Society.—Seven Open Classes for Honey and Appliances.—Schedule from Hon. Sec., Peter Bebbington, 65, Robertson Street, Glasgow.

Thursday, September 4, at Northampton.—Northamptonshire Bee-keepers' Association Honey Show. One Open Class.—Schedules from Hon. Sec., H. F. Swann, 41, St. Michael's Mount, Northampton.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries close August 30.**—Apply to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 10 and 11.—Portsmouth and District Bee-Keepers' Association, in conjunction with Portsmouth Allotments Association, at Town Hall, Portsmouth. Open Classes for Honey, Sections, and Shallow Frames, etc. Schedules from Hon. Sec., J. SINNETT, 154, Essex Road, Southsea.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

20 STOCKS Italians, 1918 and 1919 Queens, 4, 6 and 10 frames, or part; guaranteed from disease. What offers?—HENSLEY, Queen's Road, Chatham. t.17

FINE Light English Honey for Sale, £10 cwt.; samples 6d.—WELLS, Bowers Lane, Isleham, Ely, Cambs. t.18

FOR SALE, strong 10-frame Stocks Dutch and Italian Hybrids, £3 10s. each, carriage paid; 15s. deposit on box.—RECTOR, Donhead St. Andrew, Salisbury. t.45

FINEST quality Light Norfolk Honey, in 28-lb. tins, 2s. per lb., carriage paid; sample 6d.—E. W. D. MADOC, Mattishall, Dereham. t.19

BEES.—Several very nice Stocks, £4 4s. each.—UNDERWOOD, Station Road, Cogenhoe, Northampton. rt.20

NINE "W.B.C.," seven other Hives, all in good condition, guaranteed healthy; Extractor, Racks, Travelling Boxes, etc. Prices and particulars for stamped, addressed envelope. Owner leaving district.—A. DONKIN, Naunton Beauchamp, Pershore, Worcs. t.21

FEW fertile Hybrid, 1919, Queens, 7s. 6d. each.—HUNT, "Fairview," Westmoors, Dorset. t.23

WANTED, pure English Honey; any quantity.—Price, sample, SHERWOOD, Chemist, Urmston. t.24

TO BE SOLD IN ONE LOT.—Ten strong Stocks of Bees on 10 frames each, and supered; guaranteed strong and healthy; disease unknown; seen any time; £40 lot; purchaser to remove.—SHAW, Race House, Bolsterstone, near Sheffield. t.25

6-FRAME STOCK, Hybrid Italians, 70s.; box, returnable, 10s. English Honey wanted.—LEE, "Little Bowden Apiary," Burgess Hill, Sussex. rt.22

PURE Cambridge Honey (guaranteed) in 28-lb. tins, 58s. 6d., tin and case free; sample 4d.—YOUNG, 42, James Street, Cambridge. rt.26

EXPERIMENTAL APIARY for immediate disposal, including Bees of a very fine Italian strain and new Perfection W.B.C. Hives, etc.—Particulars from APIARIST, 1, Thorpe Terrace, Bourne's Green, Southend. t.27

FOR SALE, two strong Hybrid Stocks on 10 and 9 frames, thoroughly healthy, good 1919 Queens, hives with two section racks each included, the lot £8.—MRS. SNOW, Bundoran, Hartley, Longfield, Kent. t.28

TEN fertile Hybrid 1919 Queens for Sale at 5s. 6d. each; no disease.—HART, Tolmers Park Gardens, Newgate Street, Herts. t.29

THREE 4-frame Nuclei, Italian hybrids, guaranteed strong and disease free, £2 each, post free.—BLENKARN, The Lodge, Burford, near Dorking. t.30

FOR SALE, a few surplus Nuclei; 4 frames, 20s.; 5 frames, 25s.; carriage extra; box, deposit, 5s.—RAWLE, 130, Victoria Street, Grantham, Lincs. t.31

HONEY for Sale, fine quality, £19 10s. per cwt. in 28-lb. tins; tins returnable.—W. J. AYLES, Broughton, Stockbridge. t.32

CHAMPION BEE FLOWERS, Elysimium.—Plants, 3s. 100; Seed, 6d. per packet; post free.—COOK, Bockhampton, Christchurch, Hants. t.33

FOR SALE, about 20 10-frame Stocks of Bees, 1919 Queens, £4 10s. each, carriage paid; carriers returnable. Inspection invited.—ASHWORTH, Heytesbury, Wilts. rt.34

EXTRA strong Stock Bees on 10 frames; would easily divide; 80s.—ROMER, 234, Kew Road, Kew Gardens. t.35

ENGLISH BEES, 6 frames, £2 12s.; box, returnable, 10s.—HILLS, "Ivanhoe," Alton, Hants. t.36

PROLIFIC late hatched 1918 Italian Hybrid Queen, 6s. 6d. Send stamp.—WILLIAMS, 8, Corrennie Gardens, Edinburgh. t.37

TWO healthy, strong Stocks Hybrid Italians, young Queens, 10 frames, £4 each.—DR. DAVIES, Charnwood, Buckhurst Hill, Essex. t.41

FOR SALE, Stock healthy Bees, and Lees No. 79 W.B.C. Hive, new last year, with section rack, shallow frame box, queen excluder, etc., 1919 Queen, plenty stores, £5 5s., or offers.—Box 40, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. t.38

TWO strong surplus Stocks of Hybrid Italians, 1919 Queens, each on 6 frames, price £3 each; disease resistant strain.—HARPER, 39, St. James Road, Watford. t.43

WANTED, first quality 1 lb. Sections. State quantity; prompt cash.—W. CHILTON, South Down Apiaries, Polegate, Sussex. rt.44

WANTED, Geared Extractor. B.B.J. deposit.—Make, condition, price, to NICHOLSON, Ryhill, Hull. t.48

FINEST new Honey, direct from own apiaries; sections, 33s. dozen; extracted, 2s. 3d. per lb., carriage paid; tins, boxes, extra.—S. CRAWFORD, Castlederg, Co. Tyrone. rt.47

DRIVEN BEES wanted, two to four lots; Dutch or pure Italians preferred, minus queens; disease free and clean.—C. T. LLOYD, Aberdeen Villa, Ashford Common, Middlesex. t.46

FOR SALE, Stocks Dutch and Dutch-Italian, 6 frames, £3; 8 frames, £3 15s.; 10 frames, £4 10s.; carriage extra; boxes to be returned. Cash with order, or deposit system if preferred. Inspection invited. — MUNRO, Kislingbury, Northampton. rs.120

SEVERAL healthy 8-frame Italian Heather Stocks, all headed by this season's raised queens, and packed with young bees, £4 each.—HUDSON, "Sunny Vale Apiary," Rockley, Retford, Notts. r.t.16

SEVERAL STOCKS of Bees for Sale, £4, carriage paid; 15s. on box.—H. OBORNE, Guest Road, Bishopstoke, Hants. rs.126

TEN round 28-lb. Honey Tins, slightly soiled, 1s. 9d. each; five of 14 lbs., 1s. 4d. each; one 7 lbs., 1s.; 60 Section Racks, each 14 by 17, 1s. 6d. each, to clear; room wanted.—Box 38, BEE JOURNAL Office, 23, Bedford Street, W.C.2. s.114

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free.—F. RUMMING, 60, West Avenue, Oldfield Park, Bath. rs.87

QUEENS.—This year's fertile, vigorous strain, selected crossing, 8s.—H. WILCOX, 46, Lyndon Road, Olton, Warwickshire. t.39

QUEENS.—During August I offer hardy natural-raised Queens 4s. 6d. each.—WOOLDRIDGE, Woodleys, Winchcombe, Glos. t.40

1919 FERTILE Italian Queens now ready. Price to end of season, 10s. 6d.—GOATH, Cottage Apiary, Endlebury Road, Chingford. t.42

WEDNESDAY, SEPTEMBER 24.

ALTRINCHAM SHOW.

13 Classes.

Six Open to United Kingdom and seven to County of Chester and Members of the Cheshire Bee-keepers' Association.

Four good Special Prizes.

Judges: REV. CANON T. J. EVANS, M.A., The Vicarage, Knutsford; and MR. E. W. FRANKLIN, Mouldsworth, near Chester.

Schedules from HERBERT TURNER, 1, Market Street, Altrincham.

ADMINSON'S BEES
THE FINEST AVAILABLE

THE GUARANTEE OF EXCELLENCE

QUALITY BEFORE CHEAPNESS

300 % Increase in One Month

It is not an exception for a **3-Combed nucleus** headed by an **Adminson Queen**, as supplied by us, to cover nine combs in one month, with intelligent management. Nevertheless we consider it now a better investment in the hands of experienced men.

A Colony on six combs is one virtually capable of densely covering ten combs in less than a week.

As it is difficult to discriminate between customers in need of feeding their bees and those who are not in such a need, we are refunding a 15 % discount for all orders for stocks and nuclei to be executed on or after August 15th till the end of the Season, apart from the usual discount of 10 % to members of THE APIS CLUB, making a total discount to the latter of 25 % on our standard prices.

We guarantee quality and prompt attention to orders, leaving it to our customers to select the strain of bees which they prefer or to accept our advice.

ADMINSON LTD, SCIENTIFIC APIARISTS, BENSON, OXON.

1919 GUARANTEED imported fertile Golden Italian Queens, big supplies during August and September, 12s. each; specially selected, 15s.—GOODARE, New Cross, Wednesfield.

MIDDLESEX AGRICULTURAL EDUCATION SUB-COMMITTEE.—BEE COMMITTEE.

SUGAR FOR AUTUMN FEEDING.

Notice is hereby given to all Bee-keepers in the Counties of Middlesex and London that Permits for Sugar will be issued, on completion of new registration form, to all Bee-keepers who have been previously registered.

Registration Forms will be sent to registered bee-keepers shortly, and no application is necessary.

Bee-keepers who have not registered must send immediately to the undersigned a written application stating number of stocks of bees, when a registration form will be forwarded to them.

All envelopes should be marked "Sugar for Bees."

B. S. GOTT.

Guildhall, Westminster, S.W.1.

Italian Queens direct from Italy.

Address:

E. PENNA, BOLOGNA, ITALY.

I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-

In June the queens dead in the journey have been less than 2 per cent.

Orders are booked in rotation.

Price List on application.

The editorial notes of July 3 have no reference to me.

HONEY AND BEESWAX PURCHASED.

Run Honey in bulk. Sections per gross.

HONEY FOR SALE.

Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON ROWE. 28a, Moy Road, Cardiff.

ITALIAN QUEENS

Direct from Italy.

Address:

Signor Gaetano Piana, Castel San Pietro, near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.

For 1 Fertile Queen: Aug., Sept., 9/-

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

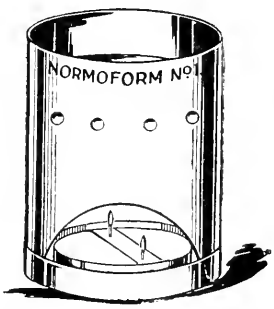
"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—
NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

SIMPLE. HARMLESS. EFFECTIVE.

THE "NORMOFORM"



PRICE, complete with candle and tablets,
2/9 each
(By post 3/-).

REFILLS - **1/6** each
(By post 1/7).

FUMIGATING DISINFECTING APPARATUS FOR COMBATING

"ISLE OF WIGHT" DISEASE.

Thoroughly effective for hives inwhich bees have died through disease, and more especially for combs from which honey has been extracted.

E.G.T. writes (21st July, 1919):—"I have used your 'Normoform' this year and have recommended it to friends, but in the interest of the craft I wish it were more widely known."

Sole Proprietors:
THE FORMALIN HYGIENIC CO., LTD.,
3, Lloyds Avenue, London, E.C.3.
EST. 1897.

A Showing Hint.

A letter from a correspondent, in which he speaks of the measurements for glazing sections, suggests that many of our readers may not know how to measure the lacing accurately. Most people naturally think the best method is to use a rule, or tape measure, but it is not, and may be misleading. The best thing is a glass templet 3½ inches square, but a a very good substitute may be made from a post-card. A square of card should be cut measuring 3½ inches along each edge, and care should be taken that it *is* square, which may easily be done by using a second card as a set square. When placed on a glazed section this square should fit inside the space of clear glass without overlapping the lace. As we have remarked before, it is better to under, than over lace. A little care will prevent a lot of disappointment, and often some unpleasantness.

A Dorset Yarn.

What is wrong with the clover? On our farm there is not a bee to be seen on acres of pasture that are covered with white flower heads, yet bees are storing away nectar at a wonderful rate. All stocks are working at high pressure. They are not on the bell heather; the blackberries and thistles have bees searching the flowers; oaks and limes are one continuous chorus of bees. Has white clover been overrated as a source of honey, or is it because the sweet, sugary substance is being forced out of the young, tender rind of these forest trees by the hot, dry sun after the heavy rains of Peace Day festivities and is it easier for them to collect?

Ruskin says "it is good to see something, and tell of it in a plain way." Some branches were cut off the lime trees in our school playground; all the leaves were adhesive with this sugary exudence; bees were on them even as they lay on the ground, until the sun dried the liquid substance up. In one's waking hours during the night one's thoughts turn over what was seen the preceding day. Mine teach me that limes are one of the best trees to plant for bees: we that have had a good time of life, and its pleasures, should plant them. Even if we do not see the flowers come on them, our children will. Ruskin wrote that "God has lent us the earth for life; it is a great entail; it belongs as much to those that come after us as to ourselves." It is in one of his books on Art, either second or third volume. Would that many of the men that own the great estates would realise this more fully, as individualism is surely leading on to revolution—but one must not go away from the subject. Bees are collecting a lot just now; it is of varied colours. There are two shades of it in long cells that are built up to the glass; the cells have been lengthened out each week. The nectar is from two distinct sources, or the colour would not be different.

We have one lot of very light-coloured Italians that have not yet sent out a drone. They are in a large straw skep. It was a very small lot, part of a big swarm that divided up (several queens came out together) on June 1. The skep has an opening in the top, to which was fixed a board to carry a rack of sections. They have filled all the sections near the centre, and are now very strong, but not a drone can be seen round the entrance, or under the glass that covers the sections. The first lot of workers that followed the queen must have had one concerted aim—to build all worker comb in the large straw skep. They wanted to be sure of plenty of workers; they must have realised that their queen was young, and no males would be wanted this season. If drone cells were built, they have not yet sent out any from the hive. Now the strong lot from the same swarm that was put on drawn out comb (where all drone cells were cut out) have had drones of a very pretty marked colour in large numbers. This strong lot, with plenty of room for storing surplus, having, with weight of numbers, very early built drone cells, either to supersede queen or to arrange for a swarm, have now decided not to emigrate, as they have begun to turn out the drones. There are quite a lot out each day. It seems such a pity to raise so many of these useless males, beautiful as they are to look at, when only one or two are ever wanted in the best regulated hive.

J. J. Kettle.

Jottings from Huntingdonshire

How angry the heat wave has made the bees, especially those having stores to protect! Going through the hives has not been pleasant, the hot weather causing the propolis to run to a gummy consistency—not unlike half-boiled toffee. I've noticed that bees in two hives I have facing east are working better just now than those facing south. The editorial hints in last week's Journal were very timely; could I afford it, I should be inclined to have them reprinted on the front

page of *The Daily Mail*, for it is certain that nine out of every dozen people who keep bees imagine that the bee-man's year ends, not begins, about the closing days of August, thinking that they may slumber until the robin nests again. May I urge the importance of giving the bees a Rymer board, or bee ways over the frames in the brood chamber before covering down for winter? Those people having stocks of bees in skeps will be well advised to weigh them skeps and all, and if a skepped stock turns the scale at 22 lbs. they need have little fear with regard to the winter as far as food is concerned. Last year I covered all my stocks down with paper, using, of course, a calico quilt next to the frames. Paper is not only warm but sanitary, it harbours no moths, nor does it invite the mice that may be looking out for cosy winter quarters.

Like Mr. Hugh Houston, I have a hive of lazy bees—or had. The cause I have discovered. The fault was mine. Being pressed for time a while ago I foolishly placed a thick waterproof quilt on the top of the super. This prevented ventilation passing up through the frames. Removing this, and putting some porous material in its place gave the bees a new interest in their hive, and they are lively again.

I see some of our daily papers have been asking if bees can hear the rattling of pans or ringing of bells. The origin of following bees by ringing bells was doubtless to call the attention of would-be prosecutors for trespassing, that one was following a swarm of bees, and could claim them wherever they settled. It is pretty certain, however, that the vibration thus set up has its effect upon bees. A short time ago I was in a carpenter's shop when a swarm of bees appeared, and were flying at a great pace; the carpenter immediately started rattling his galvanised roof. The bees wheeled round and settled on a tree not many yards from the shed, much to his delight.

Some people do strange things. A dear old lady has been bemoaning the theft of her bees. "They took them away at night, the wicked sinners, they did." "What! did they take hive, frames and all?" "No, they left me the hive and the honey, and took all the bees. It came about like this: I always kept my hive near the back door, but my brother came to stay with me and got stung, and it so upset him that we put on veils and gloves, and just before dinner lifted the hive up and placed it down the bottom of the garden; the thieves must have come in the night and made off with them, because the next morning they were nearly all gone." Alas! she is one of those very stubborn old dames who cannot be taught anything about bees, and explaining that moving the hive doubtless resulted in the bees forsaking it would be only waste of breath.

What about this sugar for bees? It appears that the most we are to expect is that we may get, if we apply in time, coupons for the amount allocated from our grocer, and apparently have to be satisfied with whatever sugar he may have in stock. One feels sure that if the Government had consulted experts they would have been advised to secure pure cane sugar for bee feeding. Personally, I shall not go beyond stimulative feeding with such sugar as one often gets nowadays. Bee-keepers will be well advised to rob "Peter to pay Paul." If a strong stock has, say, on eight frames, two superficial feet of sealed honey, a frame or two of those remaining may be safely used to help a poorer neighbour. Many people winter a stock on seven or eight frames and extract the rest. It is advisable first to give weak stocks sufficient of the supplies for their winter requirements, better give them too much than too little. My sentences are all awry this week. Please blame the weather, and remember the "silly season" is upon us.—E. F. HEMMING.

Beekeeping in Holland.

While I was a prisoner for three years in Germany I became interested in bees, and managed to get six English and American works on the subject, which I had ample leisure to study many times over. I had every intention of keeping bees after the war, so when, in March, 1918, I went to Holland to be interned, as a result of the Hague Conference in 1917, I began to make inquiries about a place to get practical instruction in the handling of bees. I heard of two places, and determined to try and commence work the end of April or beginning of May: but I reckoned without allowing for the delays of the Dutch military authorities in granting leave. However, by May 8 I had visited both places, and decided on Edervun, between Utrecht and Arnheim. This village is close to Veenendaal der Klomp, where the great fairs for stocks and swarms take place in March and June. It is a good district for bees, as there are fruit trees, cultivation, including clover and buckwheat, and lime trees in the immediate neighbourhood, and heather not far off. I at once put in for leave to live there, but after a month this was refused, so I applied the same day to go to Santpoort, and after three weeks' delay this was granted, and next day, June 29, I arrived there.

It is a small village, four miles north of

Haarlem, and here is situated the apiary and small hive factory of Mynheer Kelting, an old bee-keeper over 70 years old, who was the leading advocate in Holland for the introduction of tiering hives. Nowadays he gets no farther than the creeper-clad verandah of his little house by the apiary, where he lives with his son and daughter; the former a good apiarist, and also manager of the factory part of the business.

My instructor, however, was the junior partner, Mynheer Delachaux, a Dutchman of Swiss extraction, who had worked at bee-keeping in Germany and Holland, and who spoke English well. He told me many things which I have not seen in books, and which may be of interest to other novices besides myself. One subject he explained to me was the system of migratory bee-keeping which is worked on a large scale in Germany. He had been in the employ of a Herr Böhling, whose home apiary was at Visselhövede, near Bremen, with eleven out-apiaries in the surrounding district, containing between them about 5,000 stocks. Those apiaries were usually walled enclosures, inside which were a number of low parallel walls the height of the hive entrances, running east and west. The hives were placed 2 ft. from the north side of the low walls, facing south, so that the walls acted as a wind-break. These apiaries were chiefly in use during the winter, when they contained up to 600 hives each. During the migratory period in summer only the stocks which were not considered strong enough were kept in them.

Of the 5,000 stocks, 1,500 were in wooden hives and 3,500 in straw hives.

The wooden hives were all of one pattern, known as the Dathe hive. This hive, like most of the wooden German hives, opens at the back, with the object of conserving the warm air. It consists of a rectangular box 22 in. long by 23 in. high by 11½ in. broad, with a wooden floor half-way up dividing it into two storeys. Across the floor, near the back, is an opening 6 in. broad, to the under side of which is nailed queen-excluding zinc: this give the bees access to the top storey, but when the latter is not in use a piece of board is placed on top of the excluder. The back of each storey is closed by a wooden frame enclosing a sheet of glass, and the back of the entire hive is closed with a wooden plank secured by turn-buttons.

In each storey there are seven standing frames 16⅛ in. by 10 1-16 in. These are slid in from the back, and rest on rollers of round iron wire ¼ in. thick, leaving ¼ in. clearance above the frames. The correct spacing of the frames in each storey is obtained by means of horizontal triangular staples in the front wall and in the glass door frames at the back; these press in between the frames and hold them apart. The manipulation of the frames in this hive is awkward, and as they are slid in over the iron wires apt to irritate the bees. The object of having the door at the back, with a view to conserving the warm air, is probably not attained if the hive is opened long enough to examine a frame or two, as the warm air would at once rise and flow away from the under side of the roof.

The 3,500 straw hives were of different patterns, many being similar to the English skep, except that the entrance was 4 in. from the bottom. Some had a second entrance 10 in. from the bottom, but this was kept closed in winter. The Luneberger skeps were a good pattern, very strongly made, and bound with cane, with an entrance 10 in. high. These cost 6 marks, or 6s., before the war.

The most interesting skeps used were the Gravenhorst rectangular straw hives; these contained 12, 16, or 20 frames, 14 in. long by 8½ in. high. The spacing of the frames at the top was effected by means of a strip of zinc attached to the roof, at right angles to the frames; between every frame there was a U-shaped loop in the zinc strip, which held them at the correct distance. The end pieces of the frames projected an inch below the bottom bar, and through holes in these projections short iron skewers were thrust into the hive. The entrance was 10 in. from the bottom on the longer face of the hive. There were 4 ins. clear space under the frames, so that there was plenty of cubic air-space per bee. Mr. Delachaux had specimens of these hives in the apiary, and showed me some of the Gravenhorst hives in use.

Every endeavour was made to secure strong stocks by early April, to enable the honey harvest from the cherry blossoms to be obtained. With this object in view a commencement was made near the end of February to feed the stocks a little at regular intervals. From the middle of March the feeding was more liberal, although the danger of over-breeding was recognised, with the consequent loss of brood and many bees should a cold snap occur. The risk was accepted as there were a large number of stocks available, and should any suffer, and not be strong enough to take out at the commencement of the cherry season, they were left behind to be strengthened up for use with later crops.

The summer campaign was mapped out in minute detail during the winter, the usual itinerary being cherry, apple and

pear, clover and lime districts, ending up with the heather. The site for the headquarters of each party in each district was fixed, and the exact position and number of hives of every out-apiary of every party was settled beforehand. Contracts had to be made, and the fees arranged, for the right to use the ground. A curious feature in this connection is that, whereas, 15 or 20 years ago, the bee-keeper had to pay to be allowed to place his hives in orchards, nowadays the fruit-growers not only let the hives in free, but often pay a small fee for them to be put in their orchards. The Dutch fruit-growers also now follow the latter plan. This change, whereby the apiarist is relieved of payment for the use of the orchards, and sometimes becomes payee, is due to the Government leaflets, which have impressed on the fruit growers the great value of the bee for cross-pollinising the flowers. The railway and road routes for each party is worked out, and the carters engaged who are to be employed between the railway and the various locations to be occupied; but the date of moving from one district to another has to be decided later, according as the honey flow of the earlier crop falls off and that of the next crop commences.

Each group consists of five men, one of whom is appointed leader. They take about 600 hives, a movable hut in sections as headquarters and honey-house, camp kit, and all appliances for working for extracted honey, as neither the hives nor skeps are suitable for section honey. Some parties, most of whose itinerary was by road, would also be provided with special vans holding 36 hives, really miniature bee-houses on wheels, with a door at the back, a central corridor with hives on each side two tiers high. The hives would be left in these vans on arrival at the destination.

Mynheer Delachaux formed one of a party starting out by rail from the Visselhövede apiaries in 1912 to commence the season at the cherry orchards in Schleswig-Holstein. The straw hives were packed in the railway waggons upside down, after tying cloth over the mouth and entrance; they were arranged in two rows round the sides of the waggon, the hives in one row being opposite the junctions of hives in the other row. The hives were packed four tiers high, and to allow the air to circulate freely, and to keep them steady, 2-in. quarterings were nailed 10 in. apart by cross-pieces and secured under each tier of hives. The latter were also lashed to the sides of the waggon with ropes. The wooden hives were placed only two tiers high, with straw hives on top. The hives were placed so that the combs were parallel to the rails, as a security against breakage. The travelling was done by night to avoid excessive heat. On arrival at destination the hives and stands, and the skeps and long floorboards to take six, were taken straight to the pre-arranged positions and opened as soon as possible. In a good cherry orchard of mature trees about 15 stocks per acre would be placed. A good deal of cherry blossom honey would be obtained by the end of April. All honey was sent in tin drums to Visselhövede, where it was emptied into circular wooden vats.

The strength of the stocks was carefully watched, and any which became at all weak were returned to the home apiary for exchange.

On return to the home apiary in autumn, the bees, in skeps from which the honey was to be taken, were mostly asphyxiated with sulphur.

It seems to me that the employment of skeps was a mistake, for the various kinds of honey could not be kept separate, the honey crop would be much smaller per stock, and a large number of swarms, which had to be used to replace the stocks which were sulphured, might have been sold.—CENTURION.

Some Experiences of an Amateur.

Experience teaches all who observe, and such teaching is of value, even though it may not completely accord with expert advice, and therefore I offer the readers of the B.B.J. some amateur experiences in bee-keeping.

Five years ago I had not made acquaintance with "I.O.W." disease. My bees were natives, easily handled, always swarmed on a convenient low bush, and supplied our modest wants with the least possible amount of trouble. They were good bees, and in 1914 were tucked up for the winter, so far as I knew, all right. In the spring of 1915 all the six hives were empty, and the expert informed me it was "I.O.W." disease. I did not like to give in, so got a new stock. The bees were of the same class. I had burnt all combs, body boxes, and supers, and disinfected the hive, but the result next spring was ditto. I thought now of letting bees alone for a time, but a friend with a similar experience said if we give up now we shall probably never start again, so we obtained fresh stocks. By good luck these proved, quite accidentally, to be Italian hybrids. They thrived amazingly, and yielded a fine lot of first-class honey. Swarms increased my stock to three hives, and next spring all were alive and well. Unfortunately, the young queen in the parent

hive mated with a native drone, and the progeny lost most of the Italian characteristics. The following spring it died out, leaving two hybrid stocks. These did well, and went up to six, but again the black strain showed up strongly in three hives, all of which went under during the winter, leaving me again with three lots of yellow bees alive and well. During the summer these increased to nine, I think, but several of them had again mated to closely approximate the natives, and during the winter all but one of the black type died out, leaving me this spring with only three good hybrid stocks, and one poor little handful of blacks. The four have lived. It has been a warm and sunny summer, and once started they could hardly do less than survive and multiply. Really, I am sorry the blacks did not die out, for they have multiplied too, and I feel that heroic action is called for, involving the slaughter of queens, and their replacement by a more resisting strain. Quite a serious undertaking for the amateur, however simple for the expert. Perhaps I shall rise to the occasion, for I am firmly persuaded that Italian blood is necessary in this district to keep us free from disease, and I do what I can to encourage neighbours to introduce golden queens.

For two years I sprayed, and fumigated, and burnt, without the least success. Then the hybrids came on the scene, and promptly distinguished themselves by robbing out infected hives, and thriving on their plunder. At first I was horrified when I discovered what they were at. Later I got used to it, and ultimately I decided that no bees were any good for me unless they could pass a similar test. The fact is, there is no cure for "I.O.W." disease, and it may be long before there is. Warmth, cleanliness, good food, and antiseptics are of great help in treating it, as they are in similar infectious diseases in human beings. But a "cure" is unknown. In the meantime we must aim at immunity, and the hybrids, though not absolutely immune, under favourable conditions have a considerable capacity to resist infection, and will rarely succumb when treated with careful consideration. I feel sure Dr. Abushâdy is right in calling attention to the value of warmth, though most of us have only experienced its usefulness in the form of sunshine. Also, I am sure that plenty of good food, and dry hives are essential, and also I believe all the antiseptics recommended are helpful. It has seemed to me that more good has been done by spraying and watering the alighting board and ground round the hive than antiseptic feeding; but my experience is too limited to be worth considering. For spraying, formaline seems to be the best, and one of the cheapest substances, as well as one of the most powerful antiseptics. Still, for success the essential factor remains an immune strain of bees.

One other point in the management of bees of the hybrid type I refer to, without presuming to suggest that my practice is correct. They are very prolific, and they swarm. The expert controls the swarming. The average amateur, myself amongst the number, fails to do so. Ventilation, early and plentiful supers, enormous brood chambers have signally failed with me; while the massive domicile has rendered inspection and interference a work of considerable labour and some personal risk. And all for nothing—nothing in the way of honey, though swarms in plenty. No, the first swarm is my successful stock. Last year and this year the first swarms have piled up honey, while the imposing storied arrangement—the parent hives—have had to come down ignominously till nothing is left but the unwieldy brood chamber, where usually myriads of drones are consuming what is left of the stores, and it will take the rest of the season to pull the colony together again.

No, for me the old W.B.C., and the sooner swarm, No. 1 boils out the better. I shall be sure of three supers full if it comes off in May, and three supers per hive is the limit of my ambition in the way of bee harvest. So instead of expanding and restraining, my theory is to bottle up and explode; an eratic theory no doubt, but the bees seem to like it, and it involves easier work than handling double brood boxes of furious hybrids.

In conclusion, I should like to express my appreciation of the usefulness of the BEE JOURNAL. I have picked up what little I know about bees from the interesting communications that appear in it, and like so many of your readers I hope the contributor who supplies the "Dorset Yarn" will soon again be able to resume those sketches of Nature which have brought him into sympathetic touch with so many unknown friends.—F. F. P.

[The above was received just before Mr. Kettle was able to resume his "yarn."—EDS.]

Notes from Gretna Green.

The honey season here is quite good, although the yield from clover is less than in 1918. Heather honey is coming in rapidly these days, and its delightful fragrance surrounds the apiary night and morning. I have the medium colonies contracted to a single super, but the two

strongest are each storing in four racks of sections. One colony has fifteen frames, the other is doubled, and occupies twenty-four standard frames, while the strongest are each storing in four racks of sections above, all crowded with bees to the top to-day, August 15. All these sections are full of honey and being sealed over. Both lots are Italians, were the only two full stocks I had this season, and each supplied an early nucleus that are now strong colonies with nine, and ten frames of brood respectively. I have requeened all round with young Italian queens from Adminsons, Simmins, Penna, etc., and am doubling every colony, so that each queen will have the run of twenty frames in building up next spring. This means a lessening of the current season's surplus but it pays to be generous to our little workers. Mr. S. H. Smith is a strong advocate of autumn doubling, and ample ripe stores as a preventive of disease, and certainly a heavily stored colony has no inducement to run risks in robbing out weak or sickly lots. Also, the colony warmly clustered in its upper storey, while amply supplied with fresh air, is not exposed to dampness and chilling, direct draughts from the entrance. Dr. Abushâdy has drawn attention to this matter in his plea for insulating methods to ensure an equable temperature in safely wintering bees.—J. M. Ellis, Gretna, Carlisle.

A Shropshire Bee Garden.

I cannot agree with the writer in the daily press who recently wrote that this season has been a disastrous one for bees. Writing from a Shropshire garden, I can say it certainly has not been a bad season in this part. The fruit blossom, with the exception of damson, was splendid, and after their enforced inactivity during the cold and wet of April, the bees simply revelled in the riot of blossoming pears and apples, raspberries and gooseberries. Then followed a succession of lovely blooms in the garden, the most important for honey being *Nepita Mussini* (catmint) and *Limnanthes Douglassii*. Both give delicious light-coloured honey, and are valuable for keeping bees busy until clover and lime are out. Curiously enough, our bees do not care for Anchusa, which was planted for their benefit, and which they thoroughly ignore, to the advantage of the bumble bees, who have both Anchusas and Snapdragons to themselves entirely.

The hive bees are still busy to-day (August 16) on the flagging Nepita, which has been in flower since May. Many pounds of honey must have been extracted from it, so from the point of view of a food producer, Nepita has done its "bit." Mignonette in full flower is covered with bees all day, from which they get lovely orange-coloured pollen for the young bees. The autumnal "Hawkbit" grows in the grass in front of the hives, and though I do not recommend the encouragement of this troublesome but pretty weed, it is interesting to note that the bees find the yellow blossoms full either of honey or pollen, and are busy among them till the flowers close in the hot sun at noon. I notice the parsley flowers in the kitchen garden are also favoured in the morning only, and not afterwards. Can this be because nectar is only obtainable on them while still moist with dew?

Bees are so full of mysterious ways and surprises. A pond in which water lilies grow in the garden is flanked with stones. —each stone seeming to the human eye practically alike, yet only on one particular stone do the bees congregate for water: they fly backwards and forwards to this stone continually these hot days, and to-day I counted 30 bees getting water at the same time on that stone; the other stones, seemingly identical, not having a bee on them! The early Michaelmas daisies and "Golden feather" flowers are popular for pollen, and the giant sunflowers (grown for poultry feeding) are also favourites in the bee garden, but whether for honey or pollen I cannot say. All these old-fashioned easily-grown garden flowers are worth cultivating by bee-lovers, especially those who have no heather in their locality to carry on the honey flow after the main crops of clover and limes are over.

Muriel Jenkins.

Re Hives.

I wonder if the makers will ever go back to the old principle of wider hives. I don't mean the brood nest, but the bottom and top lifts, so they can be well packed for winter. I believe the idea was done away with owing to the difficulty of manipulation, but I cannot see how this would alter things in the least. The present-day hive one can hardly get their fingers between the lifts and the brood-box, or supers, to tuck in the quilts, and have to use a thin stick to push them down. One is apt to get a quilt jammed under the lift, and there is no room to put one's hand down; result, draught. During this weather one wants air without draught, and I call these hives very "fuggy," if I may use the expression.

The "Cowan" hive was the best I knew

of, some years ago; plenty of room, wide, and excellent for wintering. One never got the hive to bursting heat, that causes so much swarming—a great advantage to those who don't want swarms.

I see the only way to overcome this "squash up" hive of the present time is to use wire excluders, and wire divisions in the supers. The stamped, knife-edge excluder one finds covered with wax and not allowing half the air to get up above, while with wire excluders supers are free all through instead of the hot box with two iron sides, which I am certain the bees don't care for, and which cause a long time to elapse before the combs are drawn out, or the honey sealed.

I have now learned a lesson that bees want *air*, warm air, and plenty of it, not by artificial means, and they get full of vigour and health. I am using these contrivances of Mr. Wilkes, of Birmingham, and it is a pleasure not to see rows of bees fanning at the hive entrance, crying out for air.

These hot days, if one adds a board to the length of the porch, so as to keep the sun off at certain times, a difference will be seen, as the alighting board gets too hot during part of the day.

I have no interest in Mr. Wilkes, but I admire his very humane and clever ideas. —CYRIL TREDCROFT.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of June, 1919, was £26,013, and July, £42,883. From a return furnished by the Statistical Office, H.M. Customs.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Lazy Bees.

[9967] It is some consolation to find so keen an observer as J. J. Kettle unable to discover why bees go voraciously to flowers upon one day and upon another ignore them.

The explanation can only be that the atmospheric conditions allow the plants to produce nectar, but what exactly those are I cannot determine.

Hugh Houston, on "Lazy Bees" is to me very interesting. I have thirteen stocks in my garden, six of these crammed with bees. In going through them a week ago, I took from one hive 56lbs. of honey, but the brood box was empty of stores and brood and eggs. From another I took four racks, and extracted 128lbs. of honey, and left on another rack full of honey, but unsealed. None of the remaining stocks have any stores or honey to speak of. My stocks are Italian hybrids: all have been treated in exactly the same way, and all appear healthy. Yet two stocks will yield £20 worth of honey and the remaining eleven nothing. Can any bee-keeper explain?—R. OSWALD FORDHAM, Biggleswade.

Frames.

[9968] On page 337 is a list of some of the frames in use in America and elsewhere. It should be stated that the Langstroth is practically the standard in U.S.A., New Zealand, Australia, and, I believe, Canada.

The British standard, with its 238 sq. in., compared with which the Langstroth's 320 sq. in. shows a very large increase in the number of cells available in the latter.

Now I here make a statement which I feel quite certain will be contradicted by a great many British bee-keepers, who are conservative in their views. The British standard is too small for a good strain of Italian or hybrid bees. It is weak and inconvenient, and to get room has to be tiered up too high. Its shallow brother also is inconvenient. It should have been half the depth of the standard, the same depth as a section in fact. The British standard has another very bad fault. Its top bar is far too long. Why have lugs 1½ inches long? They are no use at all, and make it necessary to use a great deal of timber unnecessarily in a hive. I know that many firms now make the top bar 15½ in., but the *standard is* 17 in.

Some years ago I decided to give up the small frame except for extracting, and fixed up a hive that answered very well, details of which I gave in the *B.B.J.* I have now gone the whole hog, and have made frames for extracting as under.

Many years ago Mr. S. Simmins, of Heathfield, brought out a frame of the following dimensions:—16 in. long, 10 in. deep, top bar 17½ in. The top bar is made from $\frac{5}{8}$ in. to $\frac{7}{8}$ in. thick, and cut away at end to $\frac{3}{8}$, and has slots through for winter passages in many cases. Side bars are $\frac{3}{8}$ in. thick, and bottom bar $\frac{1}{4}$ in. thick.

Top bar and sides are $\frac{7}{8}$ in. wide, and bottom a little less.

I read of this in several papers, and finding that it had become so much of a standard frame in this county that two or three firms stocked it regularly, I decided to use it, and have done so for nine or ten years with great success. I mention this because several times lately mention has been made in the *B.B.J.* of the desirability of establishing a larger frame, and as it is not generally known amongst beekeepers that this frame is being used, it may possibly help some when changing to know that there is a frame of good dimensions in quite extensive use in England. I have no axe to grind over this matter, as I do not sell hives or frames, and what few nuclei I can spare on 16 by 10 combs I can get orders for ten times over.

I mentioned a shallow frame. I have in use this year a frame for extracting of the following dimensions:—Length 16 in., depth $4\frac{7}{8}$, top bar $17\frac{1}{2}$. Top bar $\frac{1}{2}$ in. thick (which can be cut down to $\frac{3}{8}$ if desired), sides $\frac{3}{8}$, bottom $\frac{1}{4}$. These hold about the same quantity of honey as the standard shallow comb. The chambers in which I use the above two frames are as follows:—Brood, $18\frac{1}{2}$ by $18\frac{1}{2}$ outside. Two walls made of $\frac{1}{2}$ in. and two of 1 in. stuff. The 1 in. walls are rabbeted $\frac{3}{8}$ in. deep to take lugs of frame, the rabbets being $\frac{1}{2}$ in., which leaves just $\frac{1}{4}$ in. bee space. It will be readily seen that the chamber for shallow frames is exactly half the depth of the brood chamber, and two of them may be used as a brood chamber. Brood chamber for frames 10 in. deep should be $10\frac{1}{2}$ in. deep. Shallow chamber for frames $4\frac{7}{8}$ in. deep should be $5\frac{1}{4}$ in., or both may be slightly more than that. As the outside dimensions of chambers are exactly square frames may be crossed in use as they should be.

Of course, many will say, "But my extractor will not take them." Well, all I can say is, "Get one that will." It will pay well in the end.

I write all this because in case any one is thinking of changing to a larger sized frame, it is advisable to have a frame that is to a considerable extent in use, and not to be altogether on a perch to one's self.

It will be found that bees winter better and increase very much more rapidly in spring on large combs. The queen will extend on a large comb when she will not move to another comb

Extractors can be got with double sets of cages so as to take both sizes of combs (standard and 16 by 10). In fact, the maker of mine said, in acknowledging my order, that he was flooded with orders for large extractors.

I expect some of your readers will be interested in this long rigmarole, if it ever gets into print, which I hope it will, as it is no light task for a busy man to write so much. I expect criticism, and unlike some of your readers and writers, I do not care whether it is constructive or destructive. I should have said above that my chambers are used in W.B.C. hives.

R. B. MANLEY.

Brightwell, Wallingford.

A Note from Staines.

[9969] Can you please find a small space in your valuable Journal for the following notes, as I am a reader of it every week, though not a member of an association? I read a lot about the advantage of crossing one breed with another, and I am pleased to say I have one of the finest lots of bees in the country. I have seven stocks, six of which are a cross of three different varieties and one a cross of two varieties. I have taken 60 lbs. of run honey from one hive. No. 4 has given three racks of sections, No. 3 two racks of sections. On July 11 No. 3 swarmed; there was a good half bushel of bees, weighing 10 or 11 lbs. Nine days later, July 20, there was a cast, and two days after that three more casts. The first swarm I put in a 10-frame hive. They are doing well. Have drawn all combs out, and are filling them well with honey. The cast was put in a 10-frame hive, but two days later I found it was queenless, so put the second cast with them, and now they are doing well, having drawn out nearly all the combs. I think I have got the finest bees any man could have in his garden. I wish all readers of the *B.B.J.* every success, and shall be pleased to see any of them and to show them my bees.

L. TIDBURY.

61, Causeway Place,
Staines, Middlesex.

Are Honey Shows Dead?

[9970] Following up this subject, may I be allowed to illustrate a specific instance in support of my letter published in your issue of 31st ult.? During the past week I exhibited six sections of honey, and these were disqualified as a direct result of overlacing. In my opinion they were not overlaced to result in disqualification, although it must be admitted that one of the sections was, as near as possible, the regulation minimum of $3\frac{1}{2}$ in.

Immediately it was observed that the sections had been disqualified an appeal to the judge was made. He again measured all the sections, remarking, "It is very near." I then called his attention

to a competitive section which had been awarded first prize. On measuring these it was found that they had been overlaced to the extent of ⅛ in. The judge admitted it had not been noticed, and further gave me to understand that the result of the judging between the other competitor and myself should have been reversed. There were two judges, but when the appeal was made it was found that one of the judges had left in order to catch his train, consequently the remaining judge was not authorised to amend the award without first consulting his colleague. I think it must be agreed that this is proof positive that judges do not make their awards purely on the question of the quality of honey, but partially, if not in some cases wholly, on the manner in which it is staged. The Editor, in his footnote to my previous letter, states, "It is the quality of honey that counts." I quite agree. This is as it should be, but from my experience of exhibiting at shows the staging is taken into account to the same extent as the quality of the honey.

In conclusion, I feel sure this is a great factor in deciding the query raised by your heading. Even when my appeal was made, neither of the forty members of the committee (the majority of whom were present at the show) nor the secretary even attempted to personally go into the matter on which my grievance was based.

As a result I do not feel justified in continuing my half-guinea annual subscription, and, furthermore, many shows will come and go before I again submit my sections to the award of bee-keeping judges. Surely if this is the opinion of practically a life-long beekeeper, how soon must beginners feel they do not receive justice at the hands of such judges?

J. S. T.

[We are quite aware that judges make mistakes at times. It is usual, at even small shows, to make a rule that any protest against the decision of a judge must be made in writing and handed in to the secretary by a given time. If this was done the secretary and committee were more to blame than the judge if they did not look into the matter. We entirely disagree with the statement that staging counts as much as quality.—EDS.]

Standard *v.* Shallow Frames.

[9971] Can any of your experienced readers inform me whether there is any objection to keeping bees on shallow instead of standard frames? I am keeping one stock on "shallows," and I find they are easier to handle, much less liable to break-down of comb, and generally more convenient in every way. The bees seem to take to them just as well and produce more even and regular combs, but before deciding to permanently change from the standard to the shallow frame I should like to hear whether any other bee-keepers have tried them, and with what results? If I do change, is it desirable to adapt the size of my hives to accommodate 15 to 18 shallow in place of the usual 10 to 12 standard frames? — C. BERTRAM COLLIER.

Re-Queening for "Isle of Wight" Disease.

[9972] With regard to the "Isle of Wight" disease, although re-queening is recommended, very few, I notice, take the trouble. Not one in ten seem to realise its importance. The spraying, etc., on crawlers outside the hive is of no use when the germ is bred in them. I have seen queens, when hives have been opened, with wings dislocated as bad as any workers, and yet capable of egg-production, as evidenced by the combs. Those eggs cannot fail to produce diseased bees, and while such conditions exist, the disease is always on top. Bees are infected, I believe, some time before the disease breaks out, as in some cases I have known them to swarm and show it badly a week after, and in every case I have noticed the parent stock showing it at the same identical time, which shows that the queen is the germ carrier. With these facts, it is impossible to wipe out the disease without re-queening. Sometimes, of course, the queen is not infected: then that is a case where they pull through, but it is a hundred to one chance.

With regard to the introduction of queens, it sems that there has been a difficulty in getting the Dutch stocks to accept one. Providing the queen is fertile (I don't know anything about a virgin), Mr. Simmins's direct method is the best I know of. I have at present in my apiary a queen that has laid in four different hives, and each introduction has been by that method, only instead of a matchbox, I use the tube like that Mr. Simmins uses, perforated zinc, and place a piece of dandelion leaf in the end the same as he does. By that means there is no disturbance of the hive when the queen emerges, as it is some little while before the leaf withers. I have killed a queen at noon, and although there have been plenty of eggs and young larvæ, I have successfully introduced the new queen the same night, but I never open the hive for a week afterwards, as I always place a hive top under the alighting board, so that if a queen was thrown out I should see her dead body. I believe that, provided the queens were kept without food for the prescribed period, one could successfully introduce 999 out of every thousand.

GEORGE J. CLARKE.

Ferndale Apiary, Blythburgh, Suffolk.

Coloured Chart of Bees.

[9894] Would it be possible, and practicable, to publish a complete chart of all races of bees, showing natural colours and markings of each, queen, drone and worker? Many would be glad to purchase at a not too extravagant charge.

T. JONES.

REPLY.—It would be possible to produce a coloured chart such as you suggest, but it could not be produced at a reasonable cost just now, and there would hardly be a sufficient sale to make the publication practicable.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

Saturday, Aug. 30, at Hinckley, Leicestershire and Rutland Bee-keepers' Association, in connection with Hinckley Flower Show.—Open Classes for Honey, Sections and Jars. Prizes, 12s. 6d., 7s. 6d., and 4s. 6d. in each class. Judge, W. Herrod-Hempsall, F.E.S.—Schedules from A. Kimbrell, Esq., Clarendon Road, Hinckley. **Entries close August 25.**

September 3, at Knutsford, Cheshire Bee-keepers' Association, in conjunction with Mid-Cheshire Agricultural Society.—Several Open Classes. Good prizes.—Schedules from J. Newns, Tabley, Knutsford.

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 3 and 4, Glasgow and District Bee-keepers' Association, in conjunction with the Glasgow and West of Scotland Horticultural Society.—Seven Open Classes for Honey and Appliances.—Schedule from Hon. Sec., Peter Bebbington, 65, Robertson Street, Glasgow.

Thursday, September 4, at Northampton.—Northamptonshire Bee-keepers' Association Honey Show. One Open Class.—Schedules from Hon. Sec., H. F. Swann, 41, St. Michael's Mount, Northampton.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries close August 30.**—Apply to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 10 and 11.—Portsmouth and District Bee-Keepers' Association, in conjunction with Portsmouth Allotments Association, at Town Hall, Portsmouth. Open Classes for Honey, Sections, and Shallow Frames, etc. Schedules from Hon. Sec., J. SINNETT, 154, Essex Road, Southsea.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

PRIVATE ADVERTISEMENTS.

FOUR strong 6-frame Stocks Italian Hybrids, 80s. each, disease unknown, 7s. 6d. returned on box; also 60 drawn Standard Frames at 20s. per dozen; also four W.B.C. Hives (Lee's), floor-stand, outer case and porch, brood box, lift, roof (waterproofed), well painted and in sound condition, 30s. each.—FIELDEN, Stoneygreen, Prestwood, Gt. Missenden. t.49

WANTED, experienced Bee-keeper, lady or gentleman, to put in order small apiary in return for a week's board-residence in country; reference required.—MISS BANKS, The Elms, Pertenhall, St. Neots. t.50

FOR SALE, a few Hybrid Queens (1919), 7s. 6d. each; Honey, £10 10s. per cwt.—ASHWORTH, Heytesbury, Wilts. t.51

FOR SALE, three 8-frame boxes healthy Bees, boxes nearly new, price £4 10s. each.—CLARKE, Cole Green, Hertford. t.52

NUCLEUS.—Four-frame, strong brood Bees and Stores, 35s., Dutch crossed Goldens; Queen, 7s.—GREEN, Bee-keeper, Laindon. t.53

6-FRAME Stock Hybrid Italians, 60s.—BURKE, 17, Liongate Gardens, Richmond, Surrey. t.54

GRAND STOCK for Sale, in good hive, £4 15s. the lot.—WALLACE, Bramhall, Cheshire. t.55

FOR IMMEDIATE SALE.—Two Rapid Feeders, 4s.; Extractor, 25s.; Ripener and Strainer, 15s.; Wilkes' Section Glazer, 6s.; 1,000 Lace Edgings, 3s. 9d.; 100 Glazing Squares, 4s.; Taylor's Honey Press, 15s.; 10 7-lb. Honey Tins, new, 7s. 6d.; and miscellaneous goods, many unused.—J. D. TICKLE, Scalby, Scarborough. t.56

FOR SALE, three strong Stocks of Hybrid Italian Bees, supered, in Taylor's W.B.C. Hives, Smoker, Queen Excluders, Shallow Frame Boxes, Section Racks, etc., £20, or near offer.—KINGSMEAD, Milton Road, Limbury, Luton, Beds. t.57

WANTED, recent Edition "The Honey Bee" (Cowan).—MORGAN, Underwood, Portskewett, Chepstow. t.58

TWELVE Stocks Bees, healthy, for Sale, 6-10 frames; purchaser to remove; owner ill.—STEEL, Spring Gardens, West Ashling, Chichester. rt.59

COMPLETE APIARY for Sale, comprising six Stocks Hybrid Bees on 7 frames, 5 Meadows' Hives, one Holborn, and one other Hive, five Travelling Boxes, Supers, Excluders, Sections, etc. Price and particulars for stamped, addressed envelope.—A. DONKIN, Naunton Beauchamp, Pershore, Worcs. t.60

FOR SALE, second week in September, three surplus strong Stocks, ready stored for winter, 10 frames, not less than 20 lbs. store, £4 10s. each, carriage paid.—Box 41, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. t.61

FINE Stock Hybrid Italians, 1919 Queen, 10 frames, packed brood and young bees, absolutely healthy, £4; surplus 4-frame Nucleus, 30s.—REDDIE, Cliff Cottage, Leigh, Essex. t.62

BEES, Italian hybrids, 4-frame Nuclei, 1919 Queen, 40s.—DAVEY, Burgess Hill, Sussex. t.63

I.O.W. DISEASE.—Wanted to purchase for scientific purposes a badly affected Stock.—SNELGROVE, Albert Quadrant, Weston-super-Mare. t.64

FOR SALE, strong, healthy Stocks Bees on 10 frames, 70s. Send travelling boxes.—C. R. DENNINGTON, 121, Nelson Street, Dereham Road, Norwich. t.65

WANTED, one lot of Driven Bees, pure Ligurian, 3 or 4 lbs., with young fertile Queen; must be free from disease.—T. M. HOWELLS, Highfield, Shrewsbury. t.66

PURE Cambridgeshire Honey (1 cwt.), 2s. per lb. in 14-lb. tins, or by the cwt.—R. WHITTING, Manea. t.67

FOR SALE, eight healthy 10-frame Stocks Hybrid Bees, 70s. each. Allowance made to purchasers sending travelling boxes; deposit.—HALE, Upminster, Essex. rt.68

WANTED, strong Stock Ligurians, 1919 Queen.—WALKER, Brynllishry, St. Asaph. t.69

BRITISH BEES.—Two 6-frame Stocks, guaranteed healthy, 50s. each, carriage paid. Disease wiped out my apiary in 1915.—ALUN JONES, Halkyn, Flintshire. t.70

LIGHT NORFOLK HONEY, 28-lb. tins, 2s. per lb., carriage paid.—PAIGE, Watlington, near Downham, Norfolk. t.71

FOR SALE, two Stocks Italian Hybrids, 6 frames and 9 frames, £4 lot, or offers.—AYERS, 77, Lordship Lane, Dulwich. t.74

BEES.—Several very nice Stocks, £4 4s. each.—UNDERWOOD, Station Road, Cogenhoe, Northampton. rt.20

6-FRAME STOCK, Hybrid Italians, 70s.; box, returnable, 10s. English Honey wanted.—LEE, "Little Bowden Apiary," Burgess Hill, Sussex. rt.22

PURE Cambridge Honey (guaranteed) in 28-lb. tins, 58s. 6d., tin and case free; sample 4d.—YOUNG, 42, James Street, Cambridge. rt.26

FOR SALE, about 20 10-frame Stocks of Bees, 1919 Queens, £4 10s. each, carriage paid; carriers returnable. Inspection invited.—ASHWORTH, Heytesbury, Wilts. rt.34

FOR SALE, Stock healthy Bees, and Lees No. 79 W.B.C. Hive, new last year, with section rack, shallow frame box, queen excluder, etc., 1919 Queen, plenty stores, £5 5s., or offers.—Box 40A, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. t.38

WANTED, first quality 1 lb. Sections. State quantity; prompt cash.—W. CHILTON, South Down Apiaries, Polegate, Sussex. rt.44

FINEST new Honey, direct from own apiaries; sections, 35s. dozen; extracted, 2s. 3d. per lb., carriage paid; tins, boxes, extra.—S. CRAWFORD, Castlederg, Co. Tyrone. rt.47

SEVERAL healthy 8-frame Italian Heather Stocks, all headed by this season's raised queens, and packed with young bees, £4 each.—HUDSON, "Sunny Vale Apiary," Rockley, Retford, Notts. r.t.16

60 SECTION RACKS, each 14 by 17, 1s. 6d. each, to clear; room wanted.—Box 38, BEE JOURNAL Office, 23, Bedford Street, W.C.2. s.114

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free.—F. RUMMING, 60, West Avenue, Oldfield Park, Bath. rs.87

STRICTLY BUSINESS. — Ventilated Clearer Boards, wire or wood, with Circular of Instruction, 6s. 6d., post paid; a Japanned Sprayer and 6 packages Flavine, 5s., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. t.72

QUEENS, 1919, fertile, crossed, from selected stocks, immediate delivery, 8s.—H. WILCOX, 46, Lyndon Road, Olton, Warwicks. t.73

1919 GUARANTEED imported fertile Golden Italian Queens, big supplies during August and September, 12s. each; specially selected, 15s.—GOODARE, New Cross, Wednesfield.

Italian Queens direct from Italy.

Address:
E. PENNA, BOLOGNA, ITALY.

I can book some more orders for queens to be sent off: in July at 10/- for each queen; in August and September at 9/-

In June the queens dead in the journey have been less than 2 per cent.

Orders are booked in rotation.
Price List on application.
The editorial notes of July 3 have no reference to me.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON ROWE, 28a, Moy Road, Cardiff.

ITALIAN QUEENS

Direct from Italy.

Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.

For 1 Fertile Queen: Aug., Sept., 9/-

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

SEASON 1919 **"QUEENLAND"** SEASON 1920

NO MORE ORDERS FOR QUEENS UNTIL FURTHER NOTICE.

CASH ORDERS FOR 1920.

In reply to numerous applications, and to avoid return of many enclosures, it is necessary to state that no cash (and no orders, please) can be accepted for 1920 until the new year is in.

Prices for 1920 increased to 21/-

Simmins' original "A" Class must be advanced to 21/- as he is no longer able to compete with the demand at the price charged for 25 years past.

1919 Orders not Completed remain at Old Rate.

Where clients prefer not to cancel, standing orders not completed will remain for 1920 at the original price, but no further orders can be carried forward at that rate.

QUEENLAND, HEATHFIELD, SUSSEX.

DAIRY SHOW, LONDON.

OCTOBER 21, 22, 23, and 24.

GREAT EXHIBITION OF DAIRY CATTLE, PRODUCE, APPLIANCES, &c.

ENTRIES CLOSE SEPTEMBER 8.

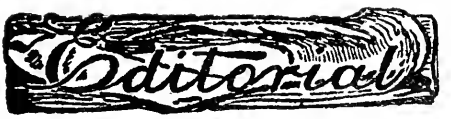
Particulars of the SECRETARY, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1

STRONG STOCKS OF HYBRID **ITALIAN BEES** on 10 frames, £4.

Deposit on Crate, 12s.

Well-made Second-hand Hives, £1.

W. H. NEEDHAM,
HEMEL HEMPSTEAD, HERTS.



Seasonable Hints.

It will be well now to remove all supers, if possible, except in heather districts. The bees will do with what honey is stored now for winter use. Great care should be taken that no inducement to rob is given. Where feeding is in progress, the syrup should be given in the evening. Entrances should be reduced in proportion to the strength of the colony. Re-queening, where necessary, had better be done as soon as possible, in order to give the new queen a chance to settle down before winter. Those who intend to rear their own queens may now go through the notes made during the season, and decide from the records which are the best stocks from which to rear both queens and drones next season. The queens of those stocks should not, of course, be replaced. A queen must be run for a full season to prove her worth, and by the time that is done it will be too late for queen-rearing. Some bee-keepers also hold that it is better to breed from a mature queen than from a young one, and that the best stock will result from breeding from a queen in her third year than when younger. In any case, do not forget that it is just as important to use one of the best queens for raising drones as it is for the queens, so that it is necessary to select two colonies for breeding purposes. It will be much better for British bee-keeping when more attention is paid to breeding from our own best strains, rather than the wholesale importation of foreign races.

A Dorset Yarn.

Away on holiday from the farm, I was able to see the farming lands between Fareham and Southampton. The doctors had ordered me to go slow, go where it is quiet; but in the lanes and fields one was never away from bees. Where the fields were very large, with scarce any houses, yet on all the blackberries there were many bees. Mostly all were Italians, but one village had either Dutch or English blacks. Huge colonies of Italians were in hollow trees, one in particular in a hollow apple-tree at the iron mills at Fontly. The entrance was at the bottom, level with the soil. Nowhere near could I find anyone who kept bees. On Fareham Park Farm was a field of charlock, on which were bees in thousands; someone in that neighbourhood must have a fine lot of stocks. They all flew towards the village of Collisfield, on the Southampton road.

The railway banks had patches of the large willow herb. On the banks of the brooks these Epilobiums were growing in profusion, with large quantities of yellow Fleabane; yet it seemed so strange to go by each house and see no bees. Yet there were many somewhere near.

I wanted to go to the Swanwick bee show, but it was wet when we motored round that strawberry centre. One could see that there were some who had our little friends, who looked for a honey harvest as well as a strawberry one. One was particularly struck with the well-kept and well-cropped lands of the small growers; in fact, all lands in the strawberry district were a long way ahead of the corn farms. Here were many huge fields where nothing had been sown. Many had tried mangels, swedes, and turnips, but each had failed. Owing to dry weather, immense fields between Swanwick and Fareham, with nothing yielding food. In one huge field the grass-cutters were cutting thistles, the seeds of which were blowing about like flakes of snow, as each seed has a light, feathery appendage to carry it away to start another colony of thistles in someone else's field. The motor tractor was there to plough it up (it had already done half of it). It does not seem quite right that this should be so, when many thousands of demobilised soldiers are waiting for land, when at every labour exchange each week men are drawing their out-of-work pay. Better give them the land that they have fought to protect from the Germans, when oats rose in one day from 56s. to 65s. per quarter. If the present owners will not do it, the State should place on the land the soldier who is waiting for his small holding. One farm labourer has now gone back to his old job, after going through the whole campaign in France. He was advised by a young officer named Braithwaite to be sure and take up bees on his farm, but, like many others, he is tired of waiting. He was a sergeant, and he has the means to start on his own. Am assured it will have but one finale—revolution.

Never was such a time for the bee-keeper as now. Honey in sections has sold at 2s. 4d. and 2s. 6d. each in the open markets by auction; in fact, all that land produces now is selling at good prices. One strawberry grower says his small strawberry area will pay better than the whole lot left. One who has only half an acre says he has enough from it to keep him and his family the whole year.—J. J. KETTLE.

Jottings from Huntingdonshire

"Away to the woods, away." This seems to be the song of the bees at the moment. Flowers are "*verboten*," while the trees are alive with workers. Mr. Kettle is doubtless right in his surmise. Many trees exude a substance at this season that is not unlike pure cane sugar. The bees make for this; it is more easily collected, and the instinct which tells them the autumn is near stimulates their anxiety to get as much honey as quickly as possible ere it is too late.

My Ligurians and Dutch are still breeding at a prolific rate; how comforting it is to see a hive crowded with young bees ready for the winter. Honey this year is a delicious delicacy—at least, that is my experience. I've never taken off such delectable sweetness as I have this past week—the flavour being finer than any previous years have produced. One got a few stings in taking off the supers, but none of us would give a "thank you" for bees without a sting. I only wish the little ladies would wait and unscrew their stings, instead of struggling off leaving the sting and part of their abdomen behind, only to get back to the hive to die. Referring again to breeding, it is of inestimable value to a bee-keeper that his queens are healthy and prolific. An indifferent queen in a hive is not infrequently the cause of the stock dwindling to nothing. A good queen is the very soul of all the actions and the centre of the instincts of the workers. With an indifferent queen the colony might as well be queenless, for the bees lose their desire to be active, while "nectar and ambrosial dust" tempt them in vain.

I have been reading a book on bees published in 1820, practically a century ago. The instructions given for introducing queens show that scientific bee-keepers knew their work in Georgian days. "If a queen be introduced into a hive within twelve hours after the removal of the reigning one there will be much agitation: the bees will surround her and keep her captive for so many hours that she will die from hunger or exhaustion. If eighteen hours elapse before the new queen be introduced there will be much mobbing, but for a shorter time, which treatment she seldom survives. If, however, twenty-four hours, or more, do elapse before the new queen be introduced, she will be well received and much honour paid her, the bees circling about her with great joy." The same writer vigorously condemns "the very mad practice of those who live in cottages, and do asphyxiate one hive of bees each year to get their honey, when it is quite easy to divide the profits with the bees." This "madness," it seems, dies hard. In this county many people still insist on doing this, and, what is worse, will not drive or let others drive them—"it's bad luck."

It is well this time of the year to look out for the webs of both the weaving and geometric spiders, which may be, and often are, spun between the alighting board and the weather board during the night. These are not usually of sufficient strength to hold a bee captive till death, but I've often noticed that a dozen or so of bees may get entangled in these webs, from which they cannot free themselves for some considerable time. At this time of the year, when it is essential that every worker bee should be able to make the most of her time, hours spent in disentangling themselves from a spider's web is time and strength wasted.

Are bee-keepers profiteers? I had an argument with a medical man the other day. He insisted that bee-keepers were great sinners, and, lifting his hand to enforce his points, he began:—1. Honey is no sweeter now than in 1914. 2. There is no record of bees having struck for higher wages. 3. We haven't heard that farmers are demanding rent or compensation for the good the bees do to the bean-blossom, clover, fruit-blossom, and the rest. 4. Honey is twice the price it was before the war. I explained as follows:—1. Bee appliances are more expensive than in pre-war days. 2. A bee-keeper's time is worth more than in 1914. 3. It has been necessary to import bees from abroad; these, owing to freightage and other like things, are more expensive than five years ago. And 4. The value of money is about half its pre-war purchasing power. Therefore not only were we not profiteering, but were selling proportionately much cheaper than before the day the Germans upset Europe. "Convinced!" was his cryptic reply.

Most bee-keepers interest themselves in other live stock, but bees do not always approve. My pony one day got on to the lawn, and went to investigate the region where four of my hives stood. A few moments after she was capering about and performing the antics of a four-year-old let out for the first time after a winter in the stable, and she even attempted to jump the fencing between the lawn and the paddock. A fortnight ago two young ducks, the only survivors of four an old hen hatched out, which I kept on a side lawn a reasonable distance from two bee-hives, had grown too large for their wire run, and so I let them free. They began darting about after flies, and seemed quite happy. Going to feed them mid-day, however, I found them looking very sad and dejected, huddled into a corner of their

coop. For the moment I wondered what was amiss, and in moving them noticed their heads were swollen cobra-shape. I guessed at once the cause; they had evidently gone near the hives to chase the bees, and the chasers had been chased. Poor dillies were very sad for the rest of the day, but after a night's quiet they ventured out again, and soon got all right. I notice they give the bees plenty of room now. I am sure, too, they will not get cramp when near a hive.—E. F. HEMMING.

The Bee Garden.

For weeks past the meadows one crosses to the out-apiary have been sere and hard under the rainless skies. The clover dried up, its blossoms brown, dandelions rare, the bramble covered now with green fruits in places where the hedges have not been cut hard back, little anywhere for the bees. In the allotments only scarlet-runner beans and vegetable marrows attract them, and even these are feeling the effects of the drought. The futile effort to supply adequate moisture with a watering-can is pathetic. Rows of flagging bean plants, from which the blossom falls, while no pods form; marrows high and dry on preposterous heaps of sun-baked rubbish are met with on all too many plots. Once arrived at the gate of my enclosure, what a contrast! Before me rise rows of hollyhocks, and a patch of tall chicory of an exquisite shade of blue. Blue, too, are the borage and phacelia, all self-sown, that stand thick on the ground. Orange cheiranthus is there, with paler evening primrose and late-sown limnanthes. Mignonette and a late-flowering aubrietia are there, while the sedum *spectabilis* is just opening. A yard-square clump of pot marjoram is a-hum with the bees, many of them wild ones, whom the nectar famine has brought to my table d'hôte.—A. F. HARWOOD.

Jottings.

Excessive Swarming and Putting them Back.—A new method from the usual course adopted when the unwelcome swarm arrives was passed on to me the other day. It seems to be well worth considering, as the chief causes of failure, such as missing a queen-cell and lack of egg accommodation, are naturally and in great measure wiped out, while if the old queen can be secured the colony seems to be put on a sound working basis for another season. Of course, this does not guarantee a good honey-take, but, given a good season, the bees are there to secure this.

A lady had a swarm hived, and the hiver promised to come and detach the queen-cells, etc., but failed to turn up. In due time the swarm issued, which I had the pleasure of securing in a hamper some two feet long. It was just within reach from the top of 7-ft. steps. The lady wanted no increase. It had reached 8 p.m. The new-comers were in the next property, the first swarm in a far corner of the home apiary.

I failed to catch the old queen as it was getting dusk, so I floured them all, and hardly knew what to expect the next day by way of a maximum swarm, or several divisions. However, they decided on a leader and a single unit, and went away merrily to work. This process of waiting until the cast issues enables the majority of brood to emerge, no queen-cells to contend with, and offers a real good chance of success if honey flow is right and supers are given in the right number. If this was adopted in an ordinary May season, a portion of new comb and eggs might have to be sacrificed, or tied into super-frames, but in this case comb built was practically nil, and if carried out at early season, with an extra standard size queen-accessible chamber, or lifting-up principle, should result in an enormous take.

Hope Deferred.—I had a fine set of standard combs nicely sealed, also eight shallows partly, leaving another set with rack of sections to be completed from one colony, which has furnished about a dozen combs of brood, and a number of bees earlier, for the formation of nuclei. On August 5 I had to take the queen and two frames away to prevent swarming. Some queen! I am sure she was far from overtaxed, as I have had a job to keep up with her, to the overworking of myself.

Negotiating a large box which I was working down to frames, which has worked apparently equally as well, I was disappointed to find a very few pounds of honey stored. Hearing of two stocks condemned to the sulphur-pit, I think I may be pardoned for restocking this box, as I save life, although fixed combs are against my principles, so I hope for better fortune next year, as the box should hold 60 lbs. and is full of comb.

Who Should be Bee-keepers?—The war seems to have added an ever-increasing class of bee-keepers, who have no real interest in or intention of looking after our little friends as they require and deserve. A good proportion possess no guide-book, take no literature, and wonder if they should join an association to be able to "register and qualify for sugar." This suggests an important departure. It is harsh to apply a boycott, but these people

are a menace from two points of view, and, given real State intervention and recognition, should receive attention, as our bees, if not worth study, are in need of protection; and surely the cause of progress is worth the tiny subscription these organisations charge in their endeavour to keep alive. It is quite mercenary to mention profit, but our friends generally interest themselves in the price honey can be sold at.

Extracting.—The habit should be formed of placing top bars in extractors one way. It is astonishing what an amount of time can be saved if one has a number of combs to go through; even the turning of the handle becomes more methodical.—A. H. HAMSHAR.

Street and Glastonbury Bee-keepers' Association.

ANNUAL MEETING.

The annual meeting was held at Portway House, Street, on Monday, W. I. Bacon in the chair.

The Secretary's report stated:—Very few of our members have had bees for the last three or four years, nearly all having been cleared out by the "Isle of Wight" disease, but good work has been done by two or three bee-keepers in cultivating a strain of bees capable of resisting the disease. Some have re-started and their bees have again died out; others have been more successful, there are now in the district 17 bee-keepers with bees in their hives and about 70 would-be bee-keepers with empty hives. Three members succeeded in obtaining nucleus stocks through the county re-stocking scheme; others have them ordered through the scheme but have not yet been supplied. Our president has been trying an unintentional experiment, keeping bees in a chimney pot on the highest point of his house. It proved an inconvenient place, so they were forcibly ejected, with the intention of placing them in a decent hive. The honey from the chimney pot was said to be very good by those who tasted it. We have had an average season for honey. There have been no really good honey days, the dry weather making the flow of nectar in the flowers very small. May was again the best month; a good stock gathering about 70 lbs. of honey during the month, compared with about 30 lbs. in each of the months of June, July, and August. The best yield from one hive for the season is estimated at 190 lbs. We have received a cheque for £5 from Mr. A. E. Staley, J.P., of Barton St. David, and have much pleasure in accepting same and entering his name as a life member of the Somerset Bee-keepers' Association. We also welcome as new members Miss Curtis, of Glastonbury, and Mrs. Williams, of Somerton.

After a discussion on disease, Mr. A. E. Staley proposed, and Mr. H. Underwood seconded, that in view of the high prices charged for appliances an effort should be made by the County Association to obtain supplies from the makers at a cheaper rate for the members. The proposition was supported by Commander Graham, R.N., and carried unanimously, and the secretary was directed to send forward a copy to the County Secretary.

A discussion followed on the great need of a simple cheap hive, within the reach of a small purse, much felt in the country; something to take the place of the straw skip, which has done duty as the home of the honey bee in this country for centuries, but its picturesque appearance in quiet places in the country is now probably gone for ever. A box with straw sides was suggested to hold bar frames, but there seemed to be difficulties in the way of making them cheaply. It was thought good results might be obtained from a standardised small square box, made to fit one over another, allowing the bees to fill them with comb naturally without any bar frames. Two or three of these boxes will be made during the winter and tried next season. Any bee-keeper, not a member of the Association, who would like to experiment with one of these boxes should let the Secretary know.

After the meeting the bees in the garden were visited, one very tall hive with eight stories attracting special attention, as it probably contained over 200 lbs. of honey.

CORRESPONDENCE

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

A Note from Cumberland.

[9973] In the autumn of 1918 I took three hives to the heather, and with them three hives belonging to a friend. The latter three were bred from mine. At the heather they all stood together in a space not more than 20 yards by 10 yards. When I went to fetch them home I found that mine were *badly* crawling, while my friends showed no signs of disease. During

the winter I lost the three that had been to the heather, also three others that had been left at home. My only stock that wintered was a lot of driven bees that I got from Yorkshire in August. As a test I put them on combs on which bees had died from "I. of W." disease. These combs I steeped in flavine, dried them, and then, just before putting the bees on them, I sprayed them with flavine and ran the bees on to them wet. These bees did well, and have showed no sign of disease. My friend's bees have not shown any disease, and have done well this year —P. M. T.

Swarm Control.

[9974] Thinking my method of swarm prevention would be of interest to your readers of the *B.B.J.*, I enclose photo showing the system I adopt when my bees become strong and commence to work in the supers.

When the honey flow commences and the bees have fairly started in the supers, I raise the brood chamber and outer case by placing a strip of wood $\frac{3}{8}$in. thick under the front and back, as shown in photo. The bees then fly from both sides and the front.

The supers are only $5\frac{3}{4}$in. deep, and are cut away at the sides $14\frac{1}{2}$in. long by $\frac{1}{4}$in. deep, so that the bees get plenty of ventilation.

Should the weather become cold I place a chaff cushion which just fits the inside of the outer case or lift on top, thus cutting off or modifying the ventilators for the time being. At other times I push the cashion from the back, leaving a space for the air to circulate. At times I dispense with all covering with the exception of calico quilt.

Although the bees can get out of the supers at the sides, I have never been troubled with them building combs between the supers and outer case. Another advantage is the bees keep the $\frac{1}{4}$in. space between the bottom of the super frames and top of super or brood frames, as the case may be, free from brace comb, and with very little trouble each super can be removed, as it only rests on the front and back across the metal ends of the frames beneath.

Although I have adopted the W.B.C. pattern hive, I have discarded the usual floor board with the flat portion following the alighting board, as I found during the honey flow a large number of bees were drowned through condensation collecting at this place, in favour of one continual slope giving a $\frac{3}{8}$-in. entrance under brood chamber and $\frac{3}{4}$ in. at the outside.

I do not like the $\frac{1}{2}$in. deep entrance, as usually constructed; I don't think this gives sufficient ventilation.

To prove my system is a sound proposition, I have only had one or two swarms during the last six years, and at the time of writing I have a stock so crowded that a few bees may be seen fanning at the entrance, although raised as described.

If beekeepers would only give their bees more air, I don't think we should hear so much of the swarming fever.—A. E. Taylor.

SWARM CONTROL.

Price of Sections.

[9975] You may be interested to hear that I saw at Harrods, yesterday (August 18), glazed sections of honey, price 4s. 8d. each.—G. M. Wood.

Large Swarms.

[9976] I have had the following this year:—20 June, 8 lb.; 1 July, $8\frac{1}{2}$ lb.; 3 July, $8\frac{1}{2}$ lb.; 8 July, 6 lb.; 11 July, 6 lb.; 13 July, $8\frac{1}{2}$ lb. Total $45\frac{1}{2}$ lb. Average, 7 lb. 9 oz. These are all I have had. All stocks very strong. A good season so far. —Edwin B. Jacob, Tramore, Waterford.

A Report from Surrey.

[9977] In your columns, and in the columns of the daily Press, I notice that 1919 is considered a bad year for honey. I propose, therefore, to give my experiences, as I have not found it so.

Starting in 1917 with one good stock of Italian bees, I, that year, took 125 lbs. of honey and extended my stock to four hives. In 1918 I restricted swarming by giving room in advance, with the result that I took 265 lbs. of run honey, and increased my stock to six hives, with which I commenced this season. One hive, which was situated well under the branches of an apple tree, did not winter very well, and I attribute this to damp dripping off the tree. This hive gave me 20 sections only, but has developed into a strong stock now. The other five gave me 450 lbs. of run honey, one hive giving 140 lbs. Now, the bulk of this honey was extracted before the end of June (260 lbs.). July was a bad month, especially for the lime flow, and I consider that over three-quarters of my honey was garnered in May and June. I had one large swarm on May 4, and the bees did not swarm again until July 4, when they began to show their "independence." I had in July about five swarms, all large: I have now nine strong stocks, having sold two. I may say I do not call myself an expert, although my wife and I manipulate them when necessary. An expert whom I call in about three times a year tells me that he has seen no bees like mine about anywhere, and that his own are not so good.

I attribute my success, if I may call it so, to quiet attention. They went into winter quarters rather short of stores, but I gave them no syrup, feeding them all the winter on Pascall's candy, which I continued up to the end of April. It does not do to boast, but I have had no disease, and anticipate none.

I give my bees clean water in different parts of my garden in shallow iron troughs. They seem to prefer certain places for this purpose, and if by any chance the water becomes a little red from rust they appear to like it better.

It therefore appears to me that candy is better than syrup. Clean water is essential, as otherwise they seek insanitary spots. My apiary is situated about 20 yards from the house, facing south-east, with a raspberry hedge in front to throw them over a garden walk, about five yards in front of them, which hedge is largely cut down in the winter. I was told when I placed them there that they would be a nuisance, but I have not found them so, and stings registered by uninterested persons have been three in three years, and in each case by children who were probably "interested." The bees, in fact, except during the removal of the racks, etc., seem to welcome company. There are, of course, flowers galore, and orchards around, so that it may be that food is responsible for the amiability. I am stating my experiences as I hope others may do, as by this means we may arrive at better conclusions. I cannot help thinking that disease is largely caused by unwholesome surroundings, and that bees are very human. Given clean surroundings, dry homes, warmth in reason, fresh air, and good food, they, like anything else in this world, become strong and healthy. Common-sense treatment will do a lot to rehabilitate the bee industry.—C. W. KENT, East Molesey, Surrey.

[Our correspondent can take it that on the whole the season has been a bad one. In some districts bees have done well, but this always happens in the worst seasons, just as in what is a generally good season bees in some localities do very badly. So far as our own personal experience goes, it is the worst season we have had in our 29 years of bee-keeping, the weather conditions having been as bad as possible for our particular district.—JUNIOR ED.]

Re-Queening and "Isle-of-Wight" Disease.

[9978] The advantages of re-queening, both as a preventive of "Isle of Wight" disease and for the purpose of ensuring rapid building-up in spring are generally admitted; but in my opinion it is very desirable that the young queen should be an Italian of good strain. From this it will be observed that I agree with the main conclusion of Mr. Clarke's letter (9972). But coming to details, I do not remember ever to have read such a mass of faulty argument. Mr. Clarke says he has seen queens with wings dislocated "as bad as any workers." This he apparently regards as pathognomonic of "Isle of Wight" disease. What evidence has he that a queen with dislocated wings is affected with this disease? Again, he says that eggs from such queens cannot fail to produce diseased bees. Again, I ask, what evidence? Even admitting, for the sake of argument, that the queen is suffering from the disease, it has, I believe, never been proved—I have never before heard it suggested that "Isle of Wight" disease is hereditary. That the young bees would become infected is highly probable, but they would contract the disease by direct infection from the older bees already suffering from it.

The statement that bees are infected some time before the disease breaks out is borne out by the results of experiments at the West of Scotland Agricultural College,* the incubation period being found to vary from three to ten weeks according to the means of infection. "In some cases I have known them to swarm, and show it badly a week after, and in every case I have noticed the parent stock showing it at the same identical time, which shows that the queen is the germ carrier." How on earth does this show anything of the sort? If the stock were affected, say, four weeks before swarming, naturally both halves, *i.e.*, parent stock and swarm, would show symptoms at the same time; there is not the least need to drag the queen in. Suppose Mrs. Jones let four children go to a party, where there is a child with mumps. Seven days later Mrs. Jones takes two of the children to Brighton, the other two remain at home. After a further eleven days have elapsed one of the children at the seaside and both of those at home are laid low with mumps, which shows that Mrs. Jones is the germ carrier! At least so Mr. Clarke would say. Most people would argue that the three children were all infected at once, and that the incubation period of mumps is 18 days—which, by the way, it is! And it will be observed that the conditions are practically the same as in the case of Mr. Clarke's swarming stock. I trust that all this will not wear out the patience of our editors, or, if it sees the light, my fellow readers. I feel impelled to criticise Mr. Clarke's arguments at some length, because it seems to me that the publication of opinions based on such faulty reasoning in a paper with the authority of the B.B.J. is likely to do much harm.

If I may ramble on for a bit, I was much interested in Mr. Manley's letter on Frames (9968). This discussion has been going on for many years to judge from some old bound volumes of the B.B.J. and the RECORD which I have recently obtained, yet the standard frame is still with us. I suppose the question is cropping up again as a result of the Italian invasion. I can well believe that a larger frame would be better for these prolific queens. Are not Italians almost exclusively cultivated in all the countries named by Mr. Manley? But it seems to me that to all intents and purposes the same object is achieved by using two brood chambers of standard frames, thus saving all the trouble and expense of a change of frames. Let us, please, Messrs. Editors, hear from Mr. Manley again on the subject—he always has something of interest to say. On one fact I differ from him very decidedly, that is on the length of the top bar. In 1917 I bought two stocks, and incidentally made my bow to foul brood, and some of the frames had these short lugs beloved of Mr. Manley. I thought them the most abominably inconvenient things imaginable, and took the first opportunity of burning them. Mr. Manley will doubtless hurl one or two Latin proverbs at my head. By way of flying off at another tangent, Mr. Kettle seems to me to be rejoicing in the fact that his bees are busy storing honey-dew from the limes and oaks—or are they getting propolis from the latter? Has Mr. Kettle ever tasted that "sugary exudence" on the lime leaves? I did *once*, when a small boy. I did not like it even then.—G. R. STRONG.

* Preliminary Report on "Isle of Wight" Disease.—TINSLEY.

Experiments with Alcohol.

[9979] I notice one of your correspondents (letter 9966) gives some account of the use of rum as a preventive of "Isle of Wight" disease.

As I have for nearly a year been noting the effects of spirits, etc., on bees, some account of the result of my observations may be interesting. It was on October 28, 1918, I had a small quantity of sugar syrup left, and looking round for a bottle to put it in I found an 8-oz. medicine bottle. I knew this previously had in it some brandy, but thinking it was empty, I filled it up with the syrup, but the smell of brandy was so strong I made inquiries, and was told it had at least two spoonsful left in it. Being curious to see what effect alcohol would have on the bees I gave the syrup to one of my stocks.

There was no doubt about them liking it, for after emptying the feeder they hung around it for days. November 14 being a fine day, they were out in strong numbers, in beautiful condition, and hard at it bringing in pollen. On December 24 they were lively. On January 17, 1919, they were feeding well at the candy on top of frames—this I could see through the glass covered box—but on the 29th they were all dead, plenty of sealed-up syrup, also candy left; there were the usual excreta marks soiling the frame.

But previously to this I had noted the apparently good results of giving brandy, and tried to obtain some more, but was sorry I was unable to get any. I thought of spirits of wine, but this is so adulterated as to make it objectionable to take, that it was risky to give to bees. However, I scooped a hollow out of a cake of candy and poured in it about a spoonful of spirits: this I gave to another stock of bees. The cake of candy was soon con-

sumed, showing that the bees did not object to spirits of wine. This stock also died during March, so that providing alcohol is good for them, the effect is not of long duration, and it requres to be given to them probably about every month.

As I could not obtain brandy to continue my experiments, and I thought spirits of wine objectionable, I continued the experiment by giving port wine, for during May two of my stocks showed signs of disease; they were listless, and had distorted wings, but in this case no excreta marks were seen.

I gave the port wine in the syrup, and the result was remarkably quick, for it only took a few hours for all signs to vanish. I was able for a month to observe them. After a month, they were robbed very severely, so much so, that the queens were molested, and deserted, leaving the bees in a bad way. To level things up I united them with the stronger stocks which had been robbing them. These united stocks are now on two brood chambers of eleven frames each, and are hard at work on the heather on the Cleveland hills.

During this year I have received, by passenger train, several lots of bees, and in every case I have immediately given them syrup mixed with port wine. I find the following method very convenient:—Lay a frame of comb, empty of stores, on its side on the table, and pour on its upper side medicated syrup. An 8-oz. bottle full of syrup may easily be emptied on to the comb, for it will run into the cells, when it is raised in proper position, and very little will run out. This frame of comb may be put directly into the hive, close to the bees,—this wrinkle is also useful to quickly feed any stock wanting stores. I have found bees coming to me in a very different condition the following day after feeding them thus. There is no doubt that port wine is good for them: it is stimulating, and helps them to throw off the disease. With the exception of port wine I have used nothing to cure "Isle of Wight" disease this year, and I have, as I said, had several doubtful lots come to me, and I have used all frames of comb on which I lost several stocks of bees. I can say the 14 lots I now have are in beautiful condition. I have also used port wine as an aid to uniting. I required to unite three combs of brood and bees to a larger stock. I first put to the strong stock a comb of syrup and port wine, as previously described. This gave the hive a strong scent, which would overpower any previous hive scent, and after spraying the three frames of comb with a similar mixture, I put them right in among the strong lot; there was not the slightest sign of fighting, and it should again succeed. I shall try it again in similar cases, for if the bees depend on scent to recognise friend or foe, then it will puzzle them to do so 'midst such a strong scent as given by spirits of wine.—F. B. CHARLTON, Stockton-on-Tees.

Frames.

[9980] Regarding letter No. 9968, by Mr. R. B. Manley, I beg to add my quota of information for the benefit of your readers.

I may say I am in entire agreement with Mr. Manley in that the British standard frame is much too small. That this is true is proved by the fact that in no country that I know of is such a small hive in use, as a standard, as the 10-frame British standard. Mr. Manley cites the Langstroth, but quite a large number of American apiarists use the Quinby and Dadant frames, which are still larger.

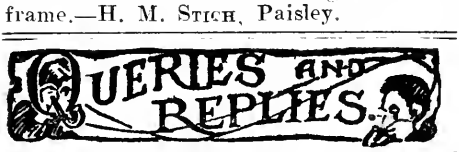
In Italy the Berlepsch hive, with its 42 frames, approximately 8 in. square, arranged in three tiers, of which the lower two, comprising 28 frames, are reserved for the queen, is rapidly giving way before the standard 12-frame Dadant-Blatt hive, which has been adopted as the standard in Italy. The frames are 434 x 300 mm., giving a total comb surface of approximately 4,800 sq. ins., against approximately 2,400 sq. ins. for the 10-frame British standard hive. The Dadant-Blatt hive is also largely in use in France and Belgium. Germany is the only important country which persists in the use of small frames, arranged as in the Berlepsch hive, which however has a larger brood nest than the British hive. But as Germany still refuses to acknowledge that the Ligurian bee is the superior of the German black bee, no further consideration need be given to German opinion in bee matters.

The champion of the British frame will say that this is all useless argument, for "I work with two brood chambers, which together give me a hive as big as the Dadant." In so doing he ignores the tremendous obstruction in the path of the queen made by the top bars of the lower frames, the bee space, and the bottom bars of the upper frames, not to mention the fact that few of the top combs will be built down to the bottom rail. The queen does not work in two sets of concentric circles when presiding over two brood chambers, but in one set of concentric circles, which takes in both upper and lower frames of comb in one sweep, and

she must therefore cross the bee space between upper and lower chambers many times a day. It has been proved time and again that sectioned brood nests are decidedly objected to by queens, so much so that the apiarist is compelled to resort to inversion to compel the queen to fill both, and keep them full.

The small frame in two storeys has one advantage only, and that is that the contraction of the brood nest is simpler when preparations are being made for wintering. Perfectly flat combs are easier to obtain with small frames, but this is a matter of skill and experience in the case of large frames.

There is no question, in my opinion, and in the opinion of the rest of the bee-keeping world, that British bee-keepers made a gross mistake in fixing the standard at 14 in. x 8½ in. It ought to have been Mr. Simmins' 16 in. x 10 in., or even more. Let me here state that hives of more than 10-frames of 14 in. x 8½ in. in one storey are a mistake. The brood cluster is a sphere, and there is no use making the dimensions in plan more than a square, *i.e.*, you gain nothing by having a brood chamber longer than the length of the frame.—H. M. Stich, Paisley.



A Re-Queening Puzzle.

[9895] On Thursday, the 14th inst., a friend of mine who has one straw skep of native bees asked me what I should advise, as they did not know if the skep had swarmed or not this season, and the bees were hanging outside the hive in a large cluster. I went and saw them, and decided to fetch a frame of brood and eggs from a Ligurian stock of my own bees and place this in a frame hive which he had with drawn-out combs. I drove the clustering bees on to the wing, picked up the skep and carried it away some distance, then I placed the frame hive in the place where I moved the skep from, and the flying bees soon took possession. I have been to-day (the 18th, four days later), and to my surprise I found a young queen running on the combs. As I have never experienced such a thing before, though I have kept bees for 40 years, I should like to have your opinion, or that of some of your readers. There was not a single bee on the comb that I took from my apiary. Do you think the queen got on the wing with the cluster when I smoked them off the skep, or would she leave the skep after I had moved it and gone to the frame hive? The skep is still very full of bees. I had thought of driving the bees from the skep, to see if a queen is there, too. Our honey flow on the Cotswold hills is very much below the average this season.—A. Collett.

Reply.—We should say your theory, that the young queen was among the clustering bees that you disturbed is correct. There are, of course, other possibilities, but this seems the most likely explanation.

J. Langdon (Exeter).—*Extending the brood nest.*—As a rule, it is not wise to give the bees too much comb building so late in the season. If they are still storing honey, you may give them another frame of foundation.

H. C. Cox (Glos.).—*Using microscope to detect "I.O.W." disease.*—You will have to dissect the bees, and look for the presence of *Nosema apis*. A copy of the No. 8 Supplement to the Journal of the Board of Agriculture would help you, but it is now out of print. You might perhaps get a second-hand copy.

E. G. Emans (Forest Gate).—*Bees under ground.*—They are most likely wild bees, and of no use for honey gathering. If you send us a specimen we can tell you.

"Blandford" (Stratford).—*Use of Rymer honey board.*—It is used between brood frames and supers to prevent brace comb, and to some extent takes the place of a queen excluder.

E. G. Mares (Dawlish).—*Storing honey in a galvanised vessel.*—It is not advisable to do so for any length of time, as the honey is likely to act on the galvanised coating.

E. Davies (Blackheath).—*Commencing bee-keeping.*—(1 and 2) It is too late to get a nucleus this year under the Government bee re-stocking scheme. Better join the Kent Bee-keepers' Association. The Secretary, Mr. G. W. Judge, "Barrowdene," Shepherd's Lane, Dartford, will give you particulars of the Association and their re-stocking scheme. (3) No. Honey dew is caused mainly by the green fly. (4) We do not know.

H. R. Springett (Cheam).—*Direct queen introduction.*—The method referred to is Mr. Simmins' "Fasting Method." Remove the old queen at mid-day. Keep the queen to be introduced quite alone, and without food for not less than 30 minutes. She should be kept in a temperate place, and free from odours. This should be done in the evening, and at dusk turn back a corner of the quilt and allow the queen to run in. Mr. Simmins prefers to keep the queen in a small tubular cage of perforated zinc, one end permanently closed. After introduction the bees must not be disturbed for at least 48 hours.

G. E. Smart (Cornwall).—*Moving bees late in November.*—There will be a certain amount of risk in moving the bees at that time, but much depends on the weather. If it is mild they will move all right. If it is not possible to move them earlier, say October, we should risk it.

J. J. (Pinner).—*Brown* sugar is not suitable for winter stores. We advise our readers to insist on their retailer supplying *white* sugar for bee food.

J. Hedley (Heywood).—Get Italians, or hybrids. You will find bees advertised in our private advt. columns. We have not room in our columns to tell you how to keep them. Get the "British Bee-keepers' Guide Book," 2s. 9d., or "Bee-keeping Simplified," 1s. 1½d., both post free from this office.

C. M. P. (Yarmouth).—If one chamber of a Wells' hive is deprived of its queen, and left so that

the queen in the other chamber cannot get to it, the bees will generally rear a queen, if brood and eggs are present.

H. T. Blaauw (Sussex).—(1) When drones are being killed off both the adult drones and the brood are turned out of the hive. (2) You can feed the honey back, and if there is not then enough stored for winter, give some of the standard combs as well. (3) Any harmless dye that you could procure from a chemist—but why dye the syrup? (4) For medicating syrup the normal doses are "Bacterol" or "Yadil" one teaspoonful to each pint of syrup, "Izal" half teaspoonful to 8 lbs. sugar, or about 6 or 7 drops to each pint of syrup.

Mrs. Fletcher (Saltoun).—Bees are natives.

S. M. Smedley (Ashby).—Hybrids, but with only a little Italian blood.

Honey Samples.

Miss Emerson (Ross).—The honey is fermenting. You can use it for making mead, or vinegar.

B. M. (Staffs.).—The honey is a good sample; a mixture from fruit and clover.

Suspected Disease.

P. Lythgoe (Lancs.).—Natives, and, so far as we can tell, healthy.

"Dead Bees" (Letchworth).—Cause of death, "I.O.W." disease.

J. W. Greig (Falkirk).—Appears to be a case of paralysis.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

Saturday, Aug. 30, at Hinckley, Leicestershire and Rutland Bee-keepers' Association, in connection with Hinckley Flower Show.—Open Classes for Honey, Sections and Jars. Prizes, 12s. 6d., 7s. 6d., and 4s. 6d. in each class. Judge, W. Herrod-Hempsall, F.E.S.—Schedules from A. Kimbrell, Esq., Clarendon Road, Hinckley. **Entries closed.**

September 3, at Knutsford, Cheshire Bee-keepers' Association, in conjunction with Mid-Cheshire Agricultural Society.—Several Open Classes. Good prizes.—Schedules from J. Newns, Tabley, Knutsford.

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 3 and 4, Glasgow and District Bee-keepers' Association, in conjunction with the Glasgow and West of Scotland Horticultural Society.—Seven Open Classes for Honey and Appliances.—Schedule from Hon. Sec., Peter Bebbington, 65, Robertson Street, Glasgow.

Thursday, September 4, at Northampton.—Northamptonshire Bee-keepers' Association Honey Show. One Open Class.—Schedules from Hon. Sec., H. F. Swann, 41, St. Michael's Mount, Northampton.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries close August 30.**—Apply to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 10 and 11.—Portsmouth and District Bee-Keepers' Association, in conjunction with Portsmouth Allotments Association, at Town Hall, Portsmouth. Open Classes for Honey, Sections, and Shallow Frames, etc. Schedules from Hon. Sec., J. SINNETT, 154, Essex Road, Southsea.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

***Trade** advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1½d. per word as "Business" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens** *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

PRIVATE ADVERTISEMENTS.

APIARY put in order, or assistance given for out-pocket expenses.—A. SIMPSON, Expert, Middle Row, South Broomhill, Acklington, Northumberland. t.75

FOR DISPOSAL, pure fertile English Black Queen, 7s. 6d.; healthy strain.—WALKER, Street, Somerset. t.76

TWO Stocks Hybrids, strong, healthy, on 9 frames, with natural stores, £3 10s. each, carriage paid; boxes, 10s., refunded when returned. —PEARS, Woodside, Scotby, Carlisle. t.77

SEVERAL STOCKS good, strong, healthy Bees (on 8 frames), £4; boxes 10s., returnable.—ROSE, Woodside, Ten Mile Bank, Downham, Norfolk. t.78

HONEY, now being extracted.—Two 28-lb. tins, 2s. per lb.; Mono pots if desired; sample 9d.—THOMAS, Causeway, Burwell, Cambs. t.79

WANTED, Driven Bees, not less than 6-lb. lots, with Queen, also Skeps.—Particulars, BENNETT, Gordon Road, Bridlington. t.80

THREE surplus 1919 fertile Queens for Sale, from healthy stock, 5s. each.—DAVIDSON, Forest Road, Burton-on-Trent. t.81

FOR SALE, a few strong 10-frame Stocks, Italians or Hybrids, £4 10s., carriage paid; carriers returnable; guaranteed full of stores for winter; 1919 Queens.—ASHWORTH, Heytesbury, Wilts. t.82

A FEW 1919 Queens for Sale, fertile Italians and Hybrids.—ASHWORTH, Heytesbury, Wilts. t.83

FOR SALE, healthy Stock of Bees, 10 frames, £4 4s.; also 7-frame lot, £3; splendid workers; box returnable.—G. S. TOOVEY, Grove Road, Hazlemere, Bucks. t.84

LIGHT English Honey for Sale, 2s. lb., or nearest offer.—A. JACKSON, Elveden, Thetford, Norfolk. t.85

WANTED, offers for Stocks of Bees in skeps, also for Driven Bees at per lb.—CHALLIS, Borough Green, Newmarket, Cambs. t.86

FOR SALE, new Bar Frame Hive and Bees, also one new Hive and one used, Smoker, unused Sections, etc.; lot £8 8s.; removing.—108, King's Avenue, Clapham Park, S.W.4. t.87

2-GALLON CANS, fitted with spout, strainer, handles top and side, strongly made, suitable syrup feeding, 4s. 6d. each, carriage paid.—L., 14, Newstead Road, S.E.12. t.88

STRONG Stocks Italian Hybrid Bees on 10 frames, 1919 Queens £5 each, or offer.—ERNEST GRIFFITHS, Helsby, Chester. t.89

FOR SALE Bees, several stocks, with or without hives; guaranteed healthy; prices according to requirements.—PLATFORD, Pike's Farm, Lingfield. t.90

FOR SALE, two May Swarms in new straw hives, pure stock, ready stored for winter. £7 or nearest offer.—G. BRANT, Sherborne St. John, near Basingstoke, Hants. t.91

THE BEE WORLD

The Largest Monthly Bee Publication in Great Britain.

Brighter than ever! You should not miss a single issue!

". . . . . No beekeeper can afford to be without it. The non-subscribers will, we fear, belong to the category of—those who merely keep bees."—*Bee Craft.*

Annual Subscription: **2/6**, post free.

OFFICES:

THE APIS CLUB,
Port Hill House, Benson, Oxon.

Important Notice.

No further orders for 1919 queens from this date can be accepted. Only few nuclei and stocks left.

No orders for 1920 can be booked until announced.

ADMINSON, LTD.,
Scientific Apiarists,
BENSON, OXON.

FOR SALE, finest quality Light Lincolnshire Honey, £10 10s. per cwt.—WILLIS, New Leake, Boston. t.92

FOR SALE, two strong 8-frame Stocks healthy Hybrids, 1919 Queens, in new travelling boxes, £4 10s. each.—DR. POOLE, Queen Mary's Hospital, Carshalton, Surrey. t.93

WANTED, Geared Extractor.—Particulars and price to GODFREY, Higham, Bury St. Edmunds. t.94

TWELVE Stocks Bees, healthy, for Sale, 6-10 frames; purchaser to remove; owner ill.—STEEL, Spring Gardens, West Ashling, Chichester. rt.59

FOR SALE, eight healthy 10-frame Stocks Hybrid Bees, 70s. each. Allowance made to purchasers sending travelling boxes; deposit.—HALE, Upminster, Essex. rt.68

BEES.—Several very nice Stocks, £4 4s. each.—UNDERWOOD, Station Road, Cogenhoe, Northampton. rt.20

6-FRAME STOCK, Hybrid Italians, 70s.; box, returnable, 10s. English Honey wanted.—LEE, "Little Bowden Apiary," Burgess Hill, Sussex. rt.22

PURE Cambridge Honey (guaranteed) in 28-lb. tins, 58s. 6d., tin and case free; sample 4d.—YOUNG, 42, James Street, Cambridge. rt.26

FOR SALE, about 20 10-frame Stocks of Bees, 1919 Queens, £4 10s. each, carriage paid; carriers returnable. Inspection invited.—ASHWORTH, Heytesbury, Wilts. rt.34

WANTED, first quality 1 lb. Sections. State quantity; prompt cash.—W. CHILTON, South Down Apiaries, Polegate, Sussex. rt.44

FINEST new Honey, direct from own apiaries; sections, 33s. dozen; extracted, 2s. 3d. per lb., carriage paid; tins, boxes, extra.—S. CRAWFORD, Castlederg, Co. Tyrone. rt.47

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

HARDY natural-raised Queens, from now onward, 4s. 6d. each.—WOOLDRIDGE, Woodleys, Winchcombe, Glos. t.96

HEALTHY Driven Bees, Italian hybrids, 12s. 6d. lot, carriage paid; package returnable. Reply stamp, addressed envelope.—CADMAN, Codsall Wood. t.97

FOUR strong lots Driven Bees, each with Queen, 7s. 6d., boxes returnable; spare Queens, 3s. 6d. each.—MORETON, Expert, Hallow, Worcester. t.98

FOUR-FRAME Nuclei, Italian Hybrid Bees, 35s.; young fertile Queens, 7s. 6d. each; deposit; approval.—GEARY, Barwell, Hinckley. t.99

ITALIANS.—Four 5-frame Nuclei, Penna's strain, crowded bees and brood, never had disease, 40s. each.—FARROW, Staplefield, Handcross, Sussex. t.100

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free.—F. RUMMING, 60, West Avenue, Oldfield Park, Bath. rs.87

STRICTLY BUSINESS. — Ventilated Clearer Boards, wire or wood, with Circular of Instruction, 6s. 6d., post paid; a Japanned Sprayer and 6 packages Flavine, 5s., post paid.—S. H. SMITH, 30, Maid's Causeway, Cambridge. t.95

1919 GUARANTEED imported fertile Golden Italian Queens, big supplies during August and September, 12s. each; specially selected, 15s.—GOODARE, New Cross, Wednesfield.

ITALIAN QUEENS

Direct from Italy.

Address:

Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.

For 1 Fertile Queen: Aug., Sept., 9/-

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.
"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—
NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

SEASON 1919 **"QUEENLAND"** SEASON 1920

NO MORE ORDERS FOR QUEENS UNTIL FURTHER NOTICE.

CASH ORDERS FOR 1920.

In reply to numerous appl cations, and to avoid return of many enclosures, it is necessary to state that no cash (and no orders, please) can be acc pted for 1920 until the new year is in.

Prices for 1920 increased to 21/-

Simmins' original "A" Class must be advanced to 21/- as he is no longer able to compete with the demand at the price charged for 25 years past.

1919 Orders not Completed remain at Old Rate.

Where clients prefer not to cancel, standing orders not completed will remain for 1920 at the original price, but no further orders can be carried forward at that rate.

QUEENLAND, HEATHFIELD, SUSSEX.

DAIRY SHOW, LONDON.
OCTOBER 21, 22, 23, and 24.

GREAT EXHIBITION OF DAIRY CATTLE, PRODUCE, APPLIANCES, &c.
ENTRIES CLOSE SEPTEMBER 8.

Particulars of the SECRETARY, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON ROWE, 28a, Moy Road, Cardiff.

Shows.

A pleasing feature in the JOURNAL the last few weeks has been the appearance of our column "Bee Shows to Come" in something of its pre-war fulness. During the war, nearly all the local flower and vegetable shows, as well as the large ones, had to be abandoned, but now, with the boom in allotments, they are being revived, and will no doubt become more popular than ever. The competition should also be keener. Nothing will stimulate a man or woman to do their best in whatever is undertaken, whether work or play, like competition. A bee-keeper who goes in for showing will naturally do his best to win, and will improve his methods wherever possible. We would like to see classes for honey and other products of the apiary at every flower show in the land, thereby not only encouraging bee-keepers, but bee-keeping, by bringing honey to the notice of the public, and stimulating a demand for the home product.

The list of shows to come is rapidly diminishing, there only being now the Grocers' and the Dairy Show, of the larger ones, yet to come, and intending exhibitors should lose no time in making entries, or they will be too late. We notice that the New Zealand bee-keepers are alive to the possibilities of the show-bench, and are arranging for a competitive exhibition in the class for Colonial Honey at the Dairy Show.

We are sorry to see that one well-known exhibitor, Mr. A. S. Dell, of Leigh, Lancs, is retiring from the show-bench. Mr. Dell's "Honey Trophy" has for some years been a feature at all the principal honey shows, both the arrangement of the display and the quality of the honey and other goods exhibited setting a high standard of excellence. His genial presence at the "Royal" and other shows will be missed.

A Dorset Yarn.

In the "A. B.C. of Bee Culture," by Root, there is a paragraph about wild bees, and how to locate them, which was very interesting reading. When wandering up the Meon Valley, and seeing so many bees, one thought of what one had read, and how one could find their home, all one afternoon, by the side of small streams that were teeming with many thousands of young trout, where watercress grew luxuriantly, bees were swaying on the blossoms as the water pressed by them. Flowers of blackberry up among the willows were alive with Italian bees. Here the beautiful kingfisher glided on in front and rested until one got close, then glided on and rested until one again got too near, then started on forward again. This shy bird I had not seen since boyhood; here was Nature's paradise, no human being was to be seen, cows and horses, birds and fishes, butterflies of varied colours, and two-winged flies of many genera, while bees, as the daylight faded, could be seen flying away to the silent woods to their homes in the hollow trees, where the weird pipe of magpie and shrieks of the jay was all that one could hear. In late August, in these dense, dark woods, rich soil by the lane sides gave thistles 6 and 8 ft. high, late teasel flowers with bees still sipping the sweets from their mauve-coloured columns. This is the first time in a busy life, that I have ever had an idle time. To see so much of the wonders of Nature: to see the large eels in the mud, and the cray fish among the trout, and watch them at eventime, was all new to me. From one stream, one of these fresh water lobsters was given me by the river keeper.—J. J. KETTLE.

Jottings from Huntingdonshire

At last my bees are turning out the drones. One is not surprised this has not been done earlier, for the honey flow is not yet over in Steeple Gidding. The heavy rains of the last few days have frightened the workers from the woods, but they still go forth; coming home laden with honey and pollen. I accidentally discovered their gathering ground the other day. I had been to post some letters, and wanting a word with the postman, I was, while waiting his arrival, leaning over a gate watching some geese, when on glancing up I noticed bee after bee gliding home one after the other, like boys on a slide. Watching the direction from whence they came I was successful in locating their rendezvous. A large field, half of which had been turned over in early July for fallowing, had become yellow with charlock, the other half was almost purple with clover blossom. Small wonder our little friends were there to make the most of it. Unfortunately they were busier with the charlock than the clover, so that a rack of sections I left on a very strong stock to be completely filled will have some candied honey. However, honey candied is not to be despised.

Going back to drones. Those of us who

know anything about poultry know how much the stamina of chickens and laying proclivities of pullets depend on the male bird; so much is this so that a healthy, vigorous cockerel mated to very inferior hens will improve the poultry yard more than a little. On the other hand, the hens might be the strongest in constitution, and prize winners in egg production, yet if mated to an indifferent cockerel the progeny will be, to say the least, disappointing. If this obtains in the avicultural world, does it not also obtain in the apicultural world? It does. Why, then, so much attention to queen rearing and so little to breeding of drones. It has, I think, been proved with the Egyptian bees, that crossing a queen with Italian drones is not nearly so successful as crossing Italian virgins with Egyptian drones. One fears with many bee-keepers it is a case of *Video meliora proboque, deteriora sequor.*

Just now one runs across an apiarist who is swelling with pride owing to the amount of honey harvested in his hives, and it is often asked—"What is a single stock of bees capable of?" The following is the best I have to record, can any bee-keeper beat it? The stock was Italian. The first swarm came out on May 13, swarm two on the 24th, a cast—but weighing 3½ lbs.—on the 26th, then peace for a while. On July 2 came out a very large swarm, on the 10th my first May swarm threw out a swarm; this was followed three days later by another swarm from the parent stock, weighing 8 lbs. On August 5 my second swarm sent out a swarm. Six of these swarms were hived, the other objected to its new home and flew away. I followed it for two miles and then gave up the chase. From my parent stock I took some 56 lbs. of honey, and from my first swarm 30 lbs. The cast of May 26 managed only to fill up ten frames of brood and about a dozen sections. Swarm four gave 70 lbs., and swarm five 25 lbs. Swarm two went to a neighbour, who took over 60 lbs of surplus honey. Swarm six went to another neighbour, and did no more than fill up the brood chamber. I should here say that I encouraged swarming, owing to the many orders for stocks, or swarms, I was constantly receiving. Summed up, the above shows the original stock was responsible for seven swarms, and 223 lbs. of surplus honey, add to this the honey gathered for the six additional brood chambers, and the result is amazing.

As to the price of honey, one comes across many advertisements, offering 1919 honey as 28s. a stone, and sections at 2s. 6d. each. Can better prices than these be obtained in London?—E. F. Hemming.

Notes from Derbyshire.

It is now nearly three years since I had the pleasure of contributing anything to the "B.B.J." with the exception of a short article written from France last year. The cause has not been lack of interest, but simply lack of suitable matter. Life in the Army does not lend itself to expressions of opinion on the current state of apiculture. Now I am back, but on return find that my three years' service has cost me dear. Out of a splendid apiary of twenty-four stocks not one remained on my return! The prevalent "I.O.W." disease and a certain amount of unavoidable neglect are responsible for the loss. Had I been at home—but then it is no use thinking what might have been. Possibly my presence would not have affected the ultimate result one little bit. But I do think that in cases such as mine something should be done by way of Government grant to make it easy for the bee-keeper to start once again on his hobby. As it is, we, who have done our little bit in the army, find on our return that the cost of re-starting an apiary is to fall entirely on our own shoulders.

The other day I applied at the Post Office for a form on which to claim from the Civil Liabilities Fund. The questions are so numerous and so intricate that no bee-keeper who merely kept his bees as a hobby can possibly answer them. I know at least that I cannot do so, and so I am reluctantly compelled to pass over that idea.

However, I have been able to make another start on my own, and now have six stocks of various sorts, with which, I hope, to re-establish my fallen fortunes. They are now on the heather, where I hope they will store enough honey to see them through the winter, and possibly give a little bit for sale. In past years I have often written a little on going to the moors. My experiences have been many and varied, but all have contributed more or less to my education, and now I think that I have reduced the problem of transporting bees to the moors to something like workable proportions. I remember that the first time I attempted the journey was with a pony and dray, it was something like five hours on the way, and met with many and varied adventures. This year I was unpacking my stocks in less than an hour from leaving my own apiary. The secret of it all is motor transport. I used a Ford motor, with a grocer's delivery van body. The cost was little more than I should have had to pay for horse transport, and the gain in time, and ease, and security, could not be estimated.

The hives I have taken to the moors this year are those in which my bees have passed the summer with me, four being frame hives, and two being the old-fashioned skeps. This has simply been caused by lack of time to prepare more suitable moor equipment, but next season I hope to have special heather hives ready. For years I have been experimenting for the purpose of finding what is a suitable hive. I believe that I found it in 1915, but have not again been able to try it. The hive is not an evolution of the frame hive into a complicated structure, but is a simplification. It only holds eight standard frames in the body, and has a super of eight shallow frames. There is neither porch nor alighting board, nor legs. In fact, it is the simplest form of frame hive that can be made. On the moors, a few stones take the place of legs, or a few wooden blocks are carried separately for the purpose. The roof is shallow, and nearly flat, sloping slightly to the rear. Quite a large number of hives of this kind can be carried in a motor van.

Of course, such a structure is entirely unsuitable for work in the home apiary, being far too restricted, but it can be used during the summer for rearing nuclei. When August draws near, and the time comes for moving to the moors, the stocks in the large hives can each be transferred to the special heather hive. Note that if it be a ten-frame stock to be transferred that there will be two frames to leave at home. These will be the two outside ones, of course, and at that time will not be likely to contain brood. If the eight taken are all full of brood, so much the better, for to a great extent it is the brood taken that decides the return of heather honey. Put on the eight shallow frames for a super. The restricted brood nest will cause the bees to be crowded into this super. Thus there is no question of the bees refusing to enter a super, they are already there. Of course, in transporting hives so packed with bees, ample ventilation must be provided.

Later.—I made a visit the other day to see how things were going on the heather. A few fine days had elapsed since the arrival of the bees, and I found that they had been doing well. The skeps had increased greatly in weight, and the only frame hive supered had quite a lot of honey already gathered. I had the joy of tasting the most delicious sweet on earth—heather honey-comb taken warm out of the hive, and eaten on the spot. Those who have never tasted this do not really know what honey is.

Since then we have had a succession of dull, cold, wet days, and I fear little more has been done. I can only hope for a few more bright days to lengthen out this harvest. The moorland farmer tells me that, owing to the drought early in the year, he does not think that the heather will last long. Since coming home I have seen nothing of my old friend, Mr. Tom Sleight. I'll warrant this short article sets him writing somewhere. Now for one more remark before finishing. I have known the "B.B.J." for many years, and have always appreciated its contents. I am so glad to find on my return, whilst looking through accumulations of the paper, that it keeps up its old standard of excellence. I hope that I am not casting any reflections on the issues of past years when I say that it appears to me to be better than ever. I hope that the Editors will not be too modest and refuse to print these last remarks.—D. WILSON.

[We thank Mr. Wilson for his kind appreciation. We are also very pleased, indeed, to hear he has been "demobbed," and to once more have his welcome contribution to our columns.—EDS.]

Cannock and District Horticultural Society Show at Cannock, August 18 and 19.

HONEY SECTION.

There were 14 classes, which were very good. The entries were not quite up to the standard of former years, although some of the exhibits were of a very fine quality. The judges were Mr. J. Kendrick, of Stone, and Mr. H. C. Barlow, of Newcastle, who made the following awards:—

CLASSES OPEN TO ALL.

Six 1-lb. Sections of Comb Honey.—1, G. Gripton, Bromstead, Newport; 2, G. Evans, Bromstead, Newport; 3, A. E. Warren, Bletchley.

Six 1-lb. Glass Jars of Light Run or Extracted Honey.—1, T. Cowlishaw, Cannock; 2, J. Birkett, Rainhill; 3, B. Warrender, Blymhill; 4, E. Jacques, Lichfield.

Six 1-lb. Glass Jars of Medium Colour Run or Extracted Honey.—1, A. E. Warren, Bletchley; 2, Miss G. Essell, Bromyard; 3, T. Cowlishaw, Cannock.

Six 1-lb. Glass Jars of Dark Run or Extracted Honey.—1, H. Bryan, Cannock; 2, A. Berresford, Cannock; 3, E. Jacques, Lichfield.

Six 1-lb. Glass Jars of Granulated Honey.—1, H. Bryan, Cannock; 2, M. Partrige, Cannock; 3, B. Warrender Blymhill.

Best Exhibition of Pure Beeswax.—1, E. Jacques, Lichfield; 2, G. Evans, Brom-

stead, Newport; 3, A. Berresford, Cannock; 4, B. Warrender, Blymhill.

One Frame (Standard or Shallow).—1, A. Berresford, Cannock; 2, T. Cowlishaw, Cannock.

Best Honey Cake.—1, A. Berresford, Cannock; 2, T. Cowlishaw, Cannock; 3, B. Warrender, Blymhill.

LOCAL CLASSES.

Six 1-lb. Sections of Comb Honey.—1, M. Partrige, Cannock.

Six 1-lb. Glass Jars of Light Run or Extracted Honey.—1, M. Partrige, Cannock; 2, H. Bryan, Cannock.

Six 1-lb. Glass Jars of Run or Extracted (other than Light) Honey.—1, T. Cowlishaw, Cannock; 2, M. Partrige, Cannock; 3, A. Berresford, Cannock.

Three 1-lb. Glass Jars of Granulated Honey.—1, M. Partrige, Cannock; 2, T. Cowlishaw, Cannock; 3, A. Berresford, Cannock.

NOVICE CLASS.

Six 1-lb. Glass Jars of Run or Extracted Honey.—1, A. Pegg, Cannock; 2, H. Bryan, Cannock.

The medals of the Staffordshire Bee-keepers' Association were awarded as follows:—

Medals for Most Points in All Classes (Open and Local).—1, silver medal, T. Cowlishaw; 2, bronze medals, M. Partrige, Cannock, and A. Berresford, Cannock, tied.

LOCAL CLASSES.

Bronze Medal for Most Points (Local).—1, A. Pegg, Cannock; 2, T. Cowlishaw, Cannock.

About 16,000 people visited the show in the two days, which might have been better attended had the weather been more favourable. During the afternoons and evenings Mr. J. Price, the county expert, assisted by Mr. A. Cheshire, of Coseley, gave some very interesting demonstrations in modern bee-keeping, which were very instructive to both old and new members of the craft and the general public at the show.—T. COWLISHAW.

Hants and Isle of Wight Bee-Keepers' Association.

SWANMORE BRANCH.

The annual Honey Show of the Swanmore branch of the Hants and Isle of Wight Bee-Keepers' Associations was held in "The Palace" grounds on Wednesday, August 20. Unfortunately the weather was very wet, which greatly reduced the number of visitors, and prevented any demonstration with live bees being given during the afternoon.

An excellent display of honey, about 470lbs. in all, was staged. Class V., 12lbs. extracted in 1lb. bottles, for which there were eight entries, being especially noticeable and difficult to judge. In Class IV., for the largest and best display of honey in any form from one apiary, Mr. H. H. Hall's exhibit of 175lbs. and Mr. G. Mouland's of 125lbs. were well and tastefully arranged. The Rev. W. E. Medlicott judged the exhibits.

List of Winners.

Class I.—The best 6lbs. of super honey in 1lb. sections: 1, Mr. T. Pink; 2, Mr. F. Sandall; 3, Mr. G. Mouland.

Class II.—The best 3lbs. of super honey in 1lb. sections: 1, Mr. F. Sandall; 2, Mr. G. Mouland; 3, Mr. H. Hall.

Class III.—The best 1lb. section of comb honey: 1, Mr. H. Hall; 2, Mr. F. Sandall; 3, Mr. G. Mouland.

Class IV.—The largest and best display of honey in any form from one apiary: 1, Mr. H. Hall; 2, Mr. G. Mouland.

Class V.—The best 12lbs. of extracted honey in 1lb. or 2lb. bottles: 1, Mr. E. Ainsley; 2, Mr. G. Mouland; 3, Mr. W. Davey.

Class VI.—The best 6lbs. of honey, 3lbs. in 1lb. sections and 3lbs. extracted in bottles: 1, Mr. E. Ainsley; 2, Mr. H. Hall.

Class VII.—The best 2lbs. of honey, 1lb. section and 1lb. extracted in 1lb. bottles: 1, Mr. E. Ainsley; 2, Mr. H. Hall; 3, Mr. G. Mouland.

Class VIII.—The best 3lbs. of granulated honey in 1lb. bottles: 1, Mr. E. Ainsley; 2, Mr. H. Hall; 3, Mr. G. Mouland.

Class IX.—The best two shallow frames taken from a hive this year: No entries.

Class X.—The best 1lb. section of comb honey. Exhibits in this class to be sold for the benefit of the Association: 1, Mr. H. Hall; 2, Mr. F. Sandall; 3, Mr. W. Rawlings.

Wasps at Week.

Now that the wasps are beginning to plague us, it may be interesting to remember a curious custom which is annually observed in the small hamlet of Week, in Westmorland. In the year 1841 there was a plague of wasps, and many persons in the countryside were fatally stung. Week suffered very badly, and in memory of the victims a tablet was erected on the neighbouring moor. Every year about this time there is a procession to the memorial stone, and after a short religious service the inhabitants sally forth with insect-powder, turpentine, or paraffin, and destroy all the wasps' nests they can discover.

—From the *Morning Post*.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Profitable Bee-Keeping.

[9981] We are often told that bee-keeping is a pursuit suitable for ladies. The following notes will show what has been done by one:—

Miss L——, a lady in South Hants, started bee-keeping two years ago with one hive of bees. During July and August she sold bees to the value of £33, and now has five good stocks with which to commence the new year. She has also had a very satisfactory amount of honey, most of which she has distributed to the deserving sick, nor have our wounded heroes been forgotten. While they have been fighting the bees have been working, and so providing a pleasure for those who have returned.

The photograph shows Miss L—— and part of her apiary. At one time she used to go well armoured with gloves and veil, etc., against the weapon the bees use for their defence, but not so now. To take a swarm from a high tree, requiring a tall ladder, or to drive bees, is now her chief delight, while the men look on from a safe distance. It must make them think the ladies are outdoing the men in everyday life. Even the gardener came in for his share of help, for being so handicapped for want of labour he could not find time to pollenate the various blossoms in the glass houses. Well knowing that the gardener was not on friendly terms with the bees, Miss L—— took some bees and closed them in the house, and so well did they do the work of pollen distributing that a splendid crop of peaches was the result.

Her chief care is to handle the bees gently, see that they are well supplied with stores, and well covered with quilts for the winter, during which there is no meddling with them. This all means strong colonies with which to commence the new year.

This lady's splendid example in bee-keeping, showing what can be done by careful and intelligent management, has caused quite a flutter in her neighbourhood, and several more ladies are, as a consequence, taking up the interesting and profitable pursuit of bee-keeping, but they will have to wait until next spring for their bees, as it is not possible to supply them now.—J. D.

A PROFITABLE APIARY IN SOUTH HANTS.

[We understand the lady has been a pupil of our correspondent, who is also seen in the picture, and needless to say he is very proud of her success. As we have often said, bee-keeping is work that is eminently suitable for ladies to take up, and numbers of them have done so during the last few years. We trust they will all be as successful as this one, whose record is so encouraging.—EDS.].

Bees Working on Red Clover.

[9982] It may interest you to know that for years past I have watched red clover during the summer season for the presence of honey bees gathering honey, and up to last week, August 22, I have never seen one single bee.

My attention was first called by a neighbour, who stated his bees were still gathering honey at the rate of 1 lb. per day, and knowing that amount could not possibly be gathered from blackberry blossom alone, I took a walk up through eight acres of red clover we had left for seed. It was a very hot day, and the clover was covered with bees, both hybrid and blacks, I watched them for some time, and they did not gather from the short stems only, but gathered the nectar from the centre of the flower. On returning the same evening at seven, the bees were still at work, but not so many.

I might add the clover is the second cut, and I know for a fact that there were no bees on the first cut (June 20), as I cut it myself. The seed was from Toogood, and yielded quite two tons per acre. I should be glad to know if you, in your experiences, have ever seen bees working on red clover.—R. D.

[Yes; bees will work the second crop, as the heads are not usually so large.—Eds.]

Raising Brood Chambers.

[9983] I notice "Swarm Control" (9,974) describes his method of raising the brood chamber and outer case with a slip of wood back and front, which you or Mr. Kettle, I forget which, recommended early this season. I followed out this plan, and the result was early this month my hive was assaulted daily, and almost nightly as well, by hornets and wasps, and the battle lasted five days, my bees winning.

I attribute these attacks to the raising of the brood chamber, as it was very hot weather, and the smell of honey which was thus enabled to escape from inside attracted these marauding and savage villains.

If this, my theory, is correct, surely one is running a great risk in so doing, for the bees have the side entrances as well as the front entrance to defend. The only method I could devise to help them was insertion of tightly rolled calico at the sides, and an extra slip on the top of the usual slip in front, which left an entrance the usual length, but just narrow enough for a bee to get through. They kept guard all night, and fought all day, and the workers hurried backwards and forwards in the thick of it. Do you consider my theory correct?—Arthur Ely.

[In the matter of raising brood chambers, as in most other operations, discretion must be used. We should certainly not advise chambers to be raised more than placing one thickness of section under each corner if wasps and hornets were plentiful, as they would be certain to be attracted. The boxes should be lowered on to the floorboard again as soon as possible after the honey flow ceases, or there is likely to be trouble from robbing by other bees, as well as wasps, etc.—Eds.].

A Re-Queening Puzzle (9895, p. 377)

[9984] I submit that the skep had swarmed on August 3 or 4. On August 14 when the skep was removed, the young queen had already been out once or twice to mark her location, or was actually absent on her wedding trip, and, naturally, returned to her stand and entered the new hive.

Whilst it is possible, it is highly improbable, that a queen, virgin or fertile, ever wastes her time clustering with some of her bees on the outside of her hive. The only reasonable and likely solution of the problem is that given above.—H. M. Stuch, Paisley.

[It is not only possible, but quite within the bounds of probability for a queen to stay with bees clustering under the hive. We have seen it done several times, and on one occasion the bees and queen were actually clustering under the porch just above the entrance of a bar frame hive.

As we said, there are other explanations, and the one given above may be correct, but we do not think it quite so likely. It would depend on the weather. If there was another queen *inside* the hive, as seems probable, the bees would almost certainly have accompanied the one outside if she took her mating flight, instead of remaining in a cluster.—Eds.]

Ventilation.

[9985] When recently a bee expert was looking at my bees, he condemned my American cloth covers next the super on account of it not being of a porous nature. I was inclined to think he was a bit of a faddist; and the American cloth covering still remains! In the "B.B.J." of August 21 Mr. Hemming attributes the cause of laziness on the part of his bees to a thick waterproof quilt, and states that removing this and putting material of a porous nature in its place gave the bees fresh impetus for work. I am much interested in this statement, as my bees have had inclination to slacking, and I wonder if my American-cloth covers have been part, or the whole, of the cause? In any case, I am now going to substitute calico ones for them!

Do many bee-keepers use the Burgess glass quilt for wintering, I wonder? I

find it such a convenience on account of admitting of a peep at the bees during winter months, and last winter the hive with the Burgess glass quilt stood the winter specially well. But then one is up against the fact of having violated the law of the necessity of porous packing! I fancy it is not an uncommon practice in some parts to have pieces of glass on the top of the supers or brood box, which, of course, amounts to the same as a glass quilt. An advantage of the latter is that it allows of a bee passage over the frames, without any special arrangement for the same, and has a hole in the centre for feeding.—GINA BARBOUR, Tattenhall, Chester.

Sulphur Fumes for "Isle of Wight" Disease.

[9986] I think there is little doubt that three of my twelve hives of bees had "Isle of Wight" disease about a month ago. There were a good number of bees crawling on the ground unable to fly; if they tried to fly they only rose about an inch from the ground and dropped again. I did not want to spray them as they were then working hard, also I had no sprayer at the time and did not want to lose any time, so put some corrugated paper in the smoker about 2ins. in depth, and some flowers of sulphur on the top of it, and well smoked the hives. I was afraid I might kill the bees, but the entrances were well open, and I went round several times to be quite sure they were still buzzing. I repeated it on four different evenings during the week, with the result that there have been no crawlers since. On finding that the diseased colonies sustained no injury, I did all the other hives, and intend doing all twice more before packing them up for the winter.

I lost my bees from "Isle of Wight" disease seven years ago, and only re-started last year. I should be glad if you could print this in the BEE JOURNAL, as I should very much like to know if anyone has tried using sulphur, or, if they should, what result they find?—E. D. L. PHILLIPS (MISS).

Frames and Other Matters.

[9987] I have a few words to say this week. First of all, referring to 9978, I should like to say I do not in any way wish to try to persuade anyone to give up the British standard if they like it. I merely wished to point out to those who think of going in for a larger one that it would be as well if they had the 16 by 10, because it is already in quite common use. If Mr. Strong reads No. 9980 he will very easily see why two brood chambers of small combs are not equal to one of larger ones. There never were truer words written than Mr. Stich's last paragraph in the above-mentioned article (No. 9980). As to the long ends of frames, it took me a good while to think why they should be considered more inconvenient than short ones, but it struck me at last—metal ends, of course. I never use them, neither do they in America, I fancy. The Hoffman frame is self-spacing. Certainly, Quinby and many other frames are used in U.S.A., but the standard frame for all intents and purposes is the Hoffman-Langstroth. I do not think—in fact, I know—that Italians are not *almost exclusively* used in U.S.A., N.Z., and Australia. Let Mr. Strong study "A B C," by Root.

And now I have a few words to say which I fear will not be quite as pleasant as I could wish. I think that Mr. J. J. Kettle should refrain from introducing politics. We probably could all say a little on the subject of the land. Mr. Kettle may be a practical farmer—or is it a market gardener he is, and fruitgrower—but so are others of us. I can assure Mr. Kettle and all your readers that the position of the farmer who grows corn and meat is not at all an easy one. We are not allowed to make enough off half an acre to keep us all the year on any crop: in fact, costs of production have gone up very much more rapidly than the values of that which we produce, with the result that it is not very easy to see our way. I am well aware that men who sell fruit and vegetables, and retail milk, are in a far stronger position, but I hardly think the fact of their being comparatively free to—to use a rather unpleasant word—profiteer gives them a right to write in Mr. Kettle's style. To begin with, he should know that a fallow is the finest of all preparations for wheat. He should also know that fallows are required now more than ever because of the over-cropping with corn for war purposes. As to the root failures, it simply means that the farmers will lose the crops and have to plant wheat there this autumn, instead of barley or oats next spring, and that there will be a great shortage of home-fed beef and mutton. Beef and mutton can only be produced at a loss—or at best a bare balance—this coming winter. Does Mr. Kettle know what it costs to grow an acre of mangolds or swedes? Let me assure him that letters such as his are one of the best ways of starting the revolution that he appears to look forward to.

And now one word to the demobilised soldier with a hankering for land. Do look before you leap. You will not find life on the land comes up to such rosy

pictures as Mr. Kettle draws. One reason why landowners hold aloof is that they are one and all absolutely certain that in nine cases out of ten putting a soldier on the land (unless he has had experience of its management apart from the experience of a labourer) will only result in disaster both for the man and also for his land.—R. B. MANLEY.

Expert Advice Wanted.

[9988] I shall be extremely obliged if you can help me. About 15 years ago I started bee-keeping on a small scale, but after getting some valuable advice and assistance from a neighbour (Mr. J. Alsford) well known in bee circles then, I went to live in London. I have returned to practically the same neighbourhood as I lived in before going to London, but my old bee friend has "joined the majority."

I find my bee knowledge all too scanty, and would be most grateful if you could possibly "hook" me on to some *real expert* anywhere near here who would examine my present three stocks, and make useful suggestions for my guidance.

I have read heaps of books on the subject, and have taken the B.B.J. for years, even while living in London, but I feel that an hour or two of practical help would just set me on the right road. Of course I do not ask for "Free advice."—(Rev.) P. MCDONALD, Charlton Horethorne Vicarage, Sherborne, Dorset.

[We do not know a bee-keeper near our correspondent, possibly one of our readers may be able to give the assistance required.—EDS.]

Combs from Other Hives.

Moths.

I see that Dr. Miller, in his reply to "Missouri," page 202, is rather inclined to be a little sceptical as to there being moth worms that will withstand freezing. But I can assure the doctor that there is a species of the bee-moth whose larvæ will survive even frost, whether they be "right-minded" or not.

The worm is small, being from one-half to five-eighths in. long, and from one-eighth to three-sixteenths in. in diameter, and it is a pinkish colour.

It was in the summer of 1914 that I was infested with this plague. I had a lot of supers that were not in use that year, and those worms got into them. They cover the face of the comb with a web, which is quite easily brushed off with a whisk broom. They did not do the combs much damage that summer, but worked chiefly upon the pollen that was stored in them. So I didn't pay much attention to them that season. I was positive in my own mind that I would be rid of them the following spring. So, in the month of May the next spring, when I wanted some supers to put on some strong colonies, I thought to put on some of the supers with the worms in them, and let the bees clean them up.

Now those supers were stored in the loft of the honey-house, where the temperature goes to at least 20 degrees below Zero. You can imagine my surprise when I examined those combs and found live worms. I was at a loss to know whether those worms were hatched from eggs that spring, or did they survive the frost? But I was rather inclined to the latter opinion. I tried to get rid of them by fumigating with sulphur and disulphide carbon, but both failed to destroy the worms. So I was at a loss to know what to do with them. However, I worked away with them that summer, brushing them off occasionally and re-opening them down as best I could. But in spite of all I did they destroyed quite a number of my combs, as they ate up the comb after the supply of pollen gave out. As I was not positive that those worms did lie in a dormant condition during the winter, I decided to make an early examination the next spring, so as to be sure. So accordingly the first week in April, after a few warm days (while the snowbanks were yet in the corners of the fences) I made an examination, and I found the worms were alive and ready for action.

Now, those worms were not in cocoons, but on the face of the combs right where they were when the cold weather stopped them, but as soon as they were thawed out they were ready to go to work.

So, when I failed to get rid of the worms by freezing, and with sulphur and sulphide, I decided to try starvation; accordingly I rid my honey-house of all combs and got them all into use, and in this way I got rid of the worms and have not been troubled with them since; that was in 1916. If I am ever troubled with them again I will send Dr. Miller a sample of them for him to experiment with. I might say that I think had I used the disulphide carbon strong enough it would have been effective.—A. M. BRIDGE, Ontario.

This seems to be something entirely new. I have never seen but two kinds of wax-moth, beside the common one, the little fellow that seems to stay at the septum. Of this latter I have seen but a few examples. You will not see the worm on the surface, but will see two or three mature bees in adjacent cells apparently trying to get out of their cells and unable to do so. Then, when you pull out the

bees you will find the little miscreant at the bottom of the cells, holding the bees there by its web.

I hope this non-freezable variety will not become common.—C. C. MILLER.

Notices to Correspondents

J. OTLEY (Essex).—*Utilising driven bees.*—They may be united to existing weak colonies as needed, or made up into lots of about 4 lbs. and hived on drawn-out combs. Do not hive driven bees on sheets of foundation. It is too late for them to collect enough nectar, and too expensive, even if sugar enough could be procured, to feed enough for them to build combs and store it for winter. After hiving they are treated exactly as any other colony. Feed until they have 25 to 30 lbs. of stores. If combs of sealed stores can be spared from other hives, use them for the driven bees.

W. H. K. (Leicester).—*Taking bees from a heap of old turves.*—Hive bees do not make their habitation in such a position. They are most likely wild bees, and useless for putting in a hive. If you care to send us a specimen we will tell you what they are.

"ROSIE" (Sheerness).—*Number of combs for winter.*—This depends on the number of bees in the hive. If they cover ten combs when packing up, leave them all. If they only cover eight reduce to that number. We prefer to leave the ordinary W.B.C. ends on, and push them close up. The use of chaff, etc., behind the division board, or round the brood box, is a matter for individual choice. We prefer no packing at all.

S. MARFLEET (Isle of Wight).—The insect is a large Sawfly.

J. C. B. (Atherstone).—They are male, or drone, wasps.

E. ANTHONY (York).—We should say the sections will be quite safe to use. It will be advisable to soak them for an hour in a solution of disinfectant and water.

Honey Samples.

W. A. L. (Cheshire).—The dark colour of the honey is caused by honey dew.

"YARROW" (Heywood).—The honey is fairly good. The colour is spoiled by a little honey dew. It is from mixed sources, but contains no heather.

L. WOOLTON (Ilford).—Very good quality; appears to be mainly from clover. Do not move the bees so short a distance, too many of them would return to the old stand and perish.

Suspected Disease.

M. T. (Hassocks).—Bees have died from "I.O.W." disease.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

September 3 and 4, at Leamington.—Warwickshire Bee-keepers' Association Show.—Schedules from Hon. Sec., J. Ingerthorpe, Knowle, Warwickshire.

September 3 and 4, Glasgow and District Bee-keepers' Association, in conjunction with the Glasgow and West of Scotland Horticultural Society.—Seven Open Classes for Honey and Appliances.—Schedule from Hon. Sec., Peter Bebbington, 65, Robertson Street, Glasgow.

Thursday, September 4, at Northampton.—Northamptonshire Bee-keepers' Association Honey Show. One Open Class.—Schedules from Hon. Sec., H. F. Swann, 41, St. Michael's Mount, Northampton.

September 6, at Bromley, Kent Bee-keepers' Association, Western Division.—Two open Gift Classes for Honey; also Open Class for Boy Scouts and Girl Guides only. Schedules in Press. **Entries closed.**—Apply to Secretary, W. E. Clifford, 63, Southlands Road, Bromley Common.

September 10 and 11.—Portsmouth and District Bee-Keepers' Association, in conjunction with Portsmouth Allotments Association, at Town Hall, Portsmouth. Open Classes for Honey, Sections, and Shallow Frames, etc. Schedules from Hon. Sec., J. SINNETT, 154, Essex Road, Southsea.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

THREE (only) hybrid fertile tested Queens, 1919, bred from my best stock, 7s. 6d. each.—W. WOODLEY, Beedon, Newbury. u.1

RETIRING from the show bench.—Will sell cheap my well-known Trophy Stands, Observatory Hives, Nucleus Hives, Shallow and Brood Boxes, Excluders.—Particulars and photos, DELL, Leigh, Lancs. u.2

WANTED to rent or buy a Cottage within five miles of Warwick with some ground suitable for bee-keeping. Must be fairly accessible by train, tram or bus. Cottage on farm with permission to stand hives in orchard would suit.—Write, Box 42, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. u.3

PRIME, healthy 10-frame Stocks Bees at £5 each. About 200 lbs. of English Honey. Best offer.—VINCENT, 132, Croydon Road, Anerley. u.4

FEW surplus fertile 1919 Queens for Sale, guaranteed healthy, 7s. 6d. each.—BARUCH-BLAKER, "Warrilow," Barnham. u.5

WANTED, W.B.C. Hives, Shallow Bar Boxes; good condition. Exchange White Leghorns, or Bantams, May, 1919.—BREWER, Bontddu, Dolgelly. u.6

THREE strong Stocks of Italian Bees on 10 frames, plenty of stores, healthy Queens, imported from Signor Penna this spring, with Hives £5 10s. each, carriage extra.—BROOK, West Hanningfield, Chelmsford. u.7

SIX healthy Stocks of Bees, in good condition; owner leaving next week; will accept £14 the lot; cash with order; carriage paid; £2 10s. each.—A. DONKIN, Naunton Beauchamp, Pershore, Worcs. u.8

THREE-FRAME NUCLEUS, 25s.; 4-frame, 30s.; 8-frame stock, £3; all 1919 Queens; splendid strain; spare fertile Queen, 5s.—FURBANK, 1, Whitefriars Road, King's Lynn. u.9

FOR SALE, several strong, healthy Stocks of Bees, with or without hives. Inspection invited.—LILLEY, Ferne House Gardens, Donhead, Salisbury, Wilts. u.10

FOR SALE, several gross nominal pound Honey Bottles, screw tops, 38s. gross; also 14-lb. lever lid Tins for honey, clean, 6d. each, eight in crate for 3s. 6d.—PARTRIDGE, 174, S. Ealing Road, W.5. u.11

PLUMS.—Wanted, 1 cwt. or more best Plums, in good condition.—Price, on rails, to 16, Church Road, West Kirby. u.12

SIX-FRAME STOCK, Hybrid Italians, 70s.; box, returnable, 10s. English Honey wanted.—LEE, "Little Bowden Apiary," Burgess Hill, Sussex. r.u.13

FOR SALE, two strong Stocks (10 frames), one 5-frame ditto, six Hives, fitted with 10 frames, W.B.C. ends, Excluders, Lifts, and Section Racks, Extractor, Skeps, Swarm Catcher, three Feeders, 700 Sections, full foundation sheets, etc.; all in good condition; £25 the lot.—Box 43, B.B.J. Office, 23, Bedford Street, W.C.2. u.14

STRONG Stocks Italian Hybrid Bees, 1919 Queens. Offers.—ERNEST GRIFFITHS, Helsby, Chester. u.15

SECTIONS for Sale, 30s. per dozen.—MISS SAUNDERS, Collingbourne Ducis, Wilts. u.16

SEVERAL 10-frame Stocks of healthy hybrid Italian Bees in well-made hives; splendid workers; no disease; good Queens guaranteed; heavy winter stores; price £4 15s. each, carriage forward; crates 12s. extra, refunded when returned. —NEEDHAM, Hemel Hempstead. u.17

WANTED, quantity of drawn-out standard Combs. State price and amount.—J. IVES, "Holmehurst," Rawdon, Leeds. u.18

FEW strong 10-frame Stocks, 1919 Queens, never diseased, 70s. each; fertile 1919 Italian Queen, 7s.; two new 13-frame Hives with dummies, 40s. each.—St. Swithin's, Shortlands, Kent. u.19

TRAVELLING BOXES (suitable nuclei), strong, useful, ventilated, to take 3 frames, 1s. 6d.; 4 frames, 2s.; 5 frames, 2s. 6d.; 6 frames, 3s.; singly or quantities.—Box 44, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. u.20

25 LBS. BEESWAX, dark, 14 lbs. light, from cappings. What offers, cash?—G. MILLIS, Hills Lane, Ely, Cambridgeshire. u.21

STRONG Stock Bees, 10 frames, 1919 Queen, £4, with Hive, perfect condition, £4 15s.; cool House Orchids, 70 healthy plants, £5.—ROMER, 234, Kew Road, Kew Gardens. u.22

NEW W.B.C. 13-frame Hive, unused; specially made last year of best yellow deal.—BENKERT, 48, Wilson Street, E.C. u.23

BEES.—Several strong Stocks, Dutch and Italian Hybrids, for Sale on 10 frames, £3 a stock.—RECTOR, Donhead St. Andrew, Wilts. u.24

FOR SALE, 18 Stocks healthy Hybrid Italians of 19 to 20 frames each (1919 Queens) in well-made W.B.C. Hives, with complete working apparatus (including lifts, supers, drawn-out combs, all wired, extractor, skep, etc.); £120 the lot. Inspection invited.—T. J. BIRD, 2, Kempton Villas, Furlong Road, Bourne End, Bucks. u.25

GLASS for glazing sections for immediate sale, 1,790 pieces; four owner removing; best cash offer accepted.—NORRIS, Castletown Castle, Dundalk. u.26

FOR SALE Bees, several stocks, with or without hives; guaranteed healthy; prices according to requirements.—PLATFORD, Pike's Farm, Lingfield. t.90

TWELVE Stocks Bees, healthy, for Sale, 6-10 frames; purchaser to remove; owner ill.—STEEL, Spring Gardens, West Ashling, Chichester. rt.59

FOR SALE, eight healthy 10-frame Stocks Hybrid Bees, 70s. each. Allowance made to purchasers sending travelling boxes; deposit.—HALE, Upminster, Essex. rt.o8

WANTED, first quality 1 lb. Sections. State quantity; prompt cash.—W. CHILTON, South Down Apiaries, Polegate, Sussex. rt.44

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas Isle of Man.

1919 GUARANTEED imported fertile Golden Italian Queens, big supplies during August and September, 12s. each; specially selected, 15s.—GOODARE, New Cross, Wednesfield.

"WEEK-END BEE-KEEPING."—We shall publish January 1, 1920, a six-chapter booklet under the above title.—S. H. SMITH, 30, Maid's Causeway, Cambridge. u.27

YOU WANT NOW
EXTRACTORS, FEEDERS, HONEY TINS AND PACKAGES,
and our new perfect Wintering Board.
MEADOWS,
SYSTON, LEICESTER.

A B C AND X Y Z OF BEE CULTURE.

By A. I. and E. R. ROOT.

We have just received a number of the 1917 Edition. All Bee-keepers should possess a copy of this comprehensive work.

Price, post free, **13s. 9d.**,
from the BRITISH BEE JOURNAL Office, 23, Bedford Street, W.C.2.
(Sold by other houses at 15s. 9d.)

ITALIAN QUEENS

Direct from Italy.

Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.

For 1 Fertile Queen: Aug., Sept., 9/-

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.

'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

SEASON 1919 **"QUEENLAND"** SEASON 1920

NO MORE ORDERS FOR QUEENS UNTIL FURTHER NOTICE.

CASH ORDERS FOR 1920.

In reply to numerous appl cations, and to avoid return of many enclosures, it is necessary to state that no cash (and no orders, pleas?) can be acc pted fo- 1920 until the new year is in.

Prices for 1920 increased to 21 -

Simmins' original "A" Class must be advanced to 21/- as he is no longer able to compete with the demand at the price charged for 25 years past.

1919 Orders not Completed remain at Old Rate.

Where clients prefer not to cancel, standing orders not completed will remain for 1920 at the original price, but no further orders can be carried forward at that rate.

QUEENLAND, HEATHFIELD, SUSSEX.

DAIRY SHOW, LONDON.

OCTOBER 21, 22, 23, and 24.

GREAT EXHIBITION OF DAIRY CATTLE, PRODUCE, APPLIANCES, &c.

ENTRIES CLOSE SEPTEMBER 8.

Particulars of the SECRETARY, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1

HONEY AND BEESWAX PURCHASED.

Run Honey in bulk. Sections per gross.

HONEY FOR SALE.

Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

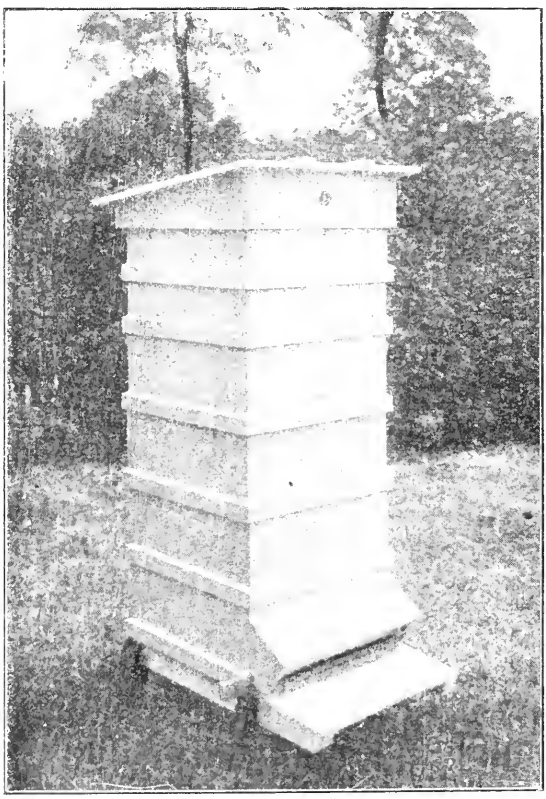
A. GORDON ROWE. 28a, Moy Road, Cardiff.

Winter your bees in good sound hives and so minimise the risk of losing them.

The Stevenson 200-lb. Skyscraper Hive (W.B.C Type) will not only do this for you, but will also enable you to keep the bees next year on the most modern and scientific lines.

It has many advantages and does away with the inconveniences experienced in using ordinary hives, thus saving time and labour and helping you to get the best possible results.

With all lifts on holds over 200 lbs of honey. Enables the honey to be properly ripened, but at the same time allows plenty of room to be given.



The materials and workmanship are of the best, and delivery can at present be given within a week of order. Order now so as to winter your bees in this hive and ensure a better harvest next year

Send for full particulars and price to:—

The Croydon Aviation & Manufacturing Co.

LIMITED

45, Oxford St., HIGH WYCOMBE.

Frames and Hives.

The discussion as to the best size for frames and hives may almost be described as a hardy annual. On the whole the British standard frame has stood the test of years well, and in our opinion fully justified its dimensions as being the best for this country up to the present.

No frame or hive, whatever their size, that may be adopted as a standard will meet with the approval of everyone. It must be admitted that very often ten standard combs do not provide enough room for the activities of many of the Italian queens, and the question is how to provide larger comb space without undue disturbance, owing to the present standard having become so universally adopted. It is very easy to say, "Adopt a larger frame, and if hives or extractors will not accommodate it, scrap them and get others." This would be too expensive a business for the small bee-keeper, who could not afford to scrap the whole of his appliances and get new, as would be necessary if a wider and deeper frame was adopted, for to have samples of frames of two widths in one apiary is impossible, and there would be no sale for appliances that were obsolete.

Taking everything into consideration, it appears to us that if any alteration is made in the size of the frame it should be in depth only, and that this would also be scientifically correct. The same end can be attained by using a double set of frames, and the size of the brood chamber may be adjusted to the capabilities of the queen—if they are known—by using another set of either standard or shallow combs, the only drawback to this plan being the difficulty of manipulation, especially when it is necessary to find the queen. We do not attach the slightest importance to the theory that the space between the top and bottom sets of combs would hinder either queen or bees. This space would be as thickly occupied by bees as that between the combs, and it would only be occasionally that the queen would spend a few seconds in traversing it. It is not to be supposed for a moment that any queen would lodge up and down, alternately laying a few eggs first in one set of combs and then in the other. A queen will force her way through an excluder if at all possible. What obstruction would this narrow space without an excluder cause?

The most practical suggestion we have had yet is that made by Mr. Charlton (page 398, No. 9989). That an 11-in. frame would not go into the extractor would not be altogether a disadvantage, for then no honey could be taken from the brood chamber. No up-to-date bee-keeper, who has any regard for his bees or the reputation of his honey, will obtain surplus by extracting it from brood combs, and 11-in. combs would be too large to use in the supers. If the extracting frames were about half the depth of the brood frames, all boxes might be made of a depth to take them, and two boxes used for a brood chamber. If the width was kept the same as the present standard, it would not be a difficult matter to gradually eliminate the frames of comb at present in use, with a minimum of loss and inconvenience.

So far as we are concerned, we are well satisfied with the present standard frame.

Registration for Sugar.

A misprint occurs in the official form of declaration of the number of stocks owned. The word "December," just above the word "signed," should be "September." It should be crossed out and the latter word written in its place.

Review.

The Bee World.—This is a new monthly magazine devoted entirely to the interests of bee culture. It is edited by Dr. A. Z. Abushâdy, whose name and writings are well known to our readers. The first three numbers that have been issued are exceedingly good, both in get up and matter. The scope of the paper is intended to be international and world-wide—as the name suggests—and its aim the betterment of the bee-keeping industry generally. Dr. Abushâdy has set for the paper a high ideal, and has no illusions as to the difficulties to be surmounted. From what we know of him, no pains or trouble will be spared to make the paper the success we are sure he and it deserve.

A Disclaimer.

Some weeks ago in reply to a correspondent, who expressed a doubt as to whether the queens imported by the Board of Agriculture were Italians, we stated that we understood the queens were from Signor Penna. In that we were mistaken. The queens were imported direct from Italy, but not from Signor Penna, as the following letter we

have just received from him will show:—

"I wish to inform the readers of THE BRITISH BEE JOURNAL that, to my regret, and on account of previous engagements, I could not supply any queens to the British Board of Agriculture for the restocking scheme. The claims and remarks which appeared in THE BRITISH BEE JOURNAL had no reference to me.—E. PENNA."

A Dorset Yarn.

"The tiny heath-bells now begin to blow,
The russet moor assumes a richer glow.
The powdery bells that glance in purple bloom
Swing from their scented cups a sweet perfume,
While from their cells, still wet with morning dew,
The wandering wild bee sips the honied glue.
In wider circles wake the liquid hum,
And far remote the mingled murmurs come."

Why the writer should infer that only the wild bee finds the common ling so full of liquid sweets I do not know, because on the heather near us are blacks, hybrids and Italians. Many of them must come from the Violet Farm, for one day this week (when it did not rain) it was real good to see so many of them. There are several bee-keepers on the borders of these heather-clad wastes; there could not have been many of the bees that had their homes in hollow trees. The writer was perfectly right with "honied glue." I saw on September 4th, at Canford, the Dorset home of Lady Wimborne, shallow bars that Mr. Organ, who manipulates them in the extractor, failed to get out the lower parts, which were filled with heather honey. Though uncapped and warmed, a great deal of it was left. He did not speak of a great weight of honey, though this estate is rich in lime trees. He was giving the shallow bars to weak stocks to clean up.

Our lot seem to have been very busy while I have been on holiday. One has done a box of shallow bars and partly filled a rack of sections; these are hybrids. One lot of Italians had two racks given them at the time of taking off two, the first week in August. I see the top one has all centre capped, so must infer the lower one is full. Each of the strong ones will do me some heather still, if only the weather is fair. Heavy rains seem not to hurt the heather so much as the fine rain. When wind drives the spray into the small flowers, bees do not go to them till they are quite dry. With raspberries that are in bloom now, they are out on them as soon as rain ceases. Their flowers are formed so that rain does not get into the sexual organs. The flowers of *Calluna vulgaris* have the tiny bells packed in so close together that they cannot hang down as does the raspberry, so the fine rains blow into each, and they do not dry so quickly as the bees would wish, so ours do not fly in that direction after rain, but on to the lines of rasps. Bees seem to be a good weather guide. On Saturday, September 6, they all were flying high in direction of heather, yet the morn was grey, with heavy white-fog clouds. They knew it would be fine, though I thought it would rain, and thought it unwise to start cutting the barley fields. The next part of the moon will be dry, I am thinking. Bees will be able to fill up many cells with heather honey, though most will go into the brood chamber if the nights get cold.—J. J. KETTLE.

Jottings from Huntingdonshire

The showery weather with the warm winds have repainted the landscape; one finds even dog-roses blooming again with all the freshness of June. I've just done what I rarely do, put an extra super on one of my stocks of Italians; this for two reasons—(1) because the bees have heaps of honey in their brood chamber and are still so anxious to gather and store that they are even in process of building comb outside the hive beneath the weather-board; and (2) because they are so crowded that at night some hundreds cluster on the alighting board, and when wet get underneath. So thick and crowded are they that had I a spare hive I could easily divide them and still have two strong stocks. I have been making an experiment this week. A few days ago I was visiting a friend who has a hive of hybrids facing north. As the bees came forth they swung round and went off to forage in a southerly direction. On returning, I noticed my bees, in hives facing south, came out of their hives and went off without any twisting or turning whatever. Two of my hives face east. The bees from these came out and veered round southward before gathering speed and away. About 150 yards northward of my apiary is an old uninhabited cottage, the garden of which is blue with borage blossom, yet only a few bumble-bees were making use of these honied flowers. I felt sure, were these borage plants south of my apiary, the bees would be busy amongst them. I decided on a method of

testing. On a window-sill south of my hives I placed some honey in five small lots, about two tablespoonfuls in all, and watched. In less than a minute a wasp was busy with the sweets; five more joined her in the next 30 seconds. Two minutes later the first bee arrived, took her fill, went off, and returned with half a dozen more. The wasps by this time numbered 16, and they began to show themselves aggressive. They didn't bother to fight, but just flew against the bees, knocking them over into the honey, with the result that the bees, their wings sticky with "the food of the gods," were placed *hors de combat*. The wasps were now having it pretty much their own way. One bee, however, was diligently being cleaned by her companions, and was soon able to fly away. The Greeks of old tell us how the bees talked, and how quickly they notify to their companions the presence of honey, and also the fact of the bees of the colony being in danger. Whether this bee went to the hive to tell of the presence of honey in the near neighbourhood, or to call for assistance against the wasps, I cannot tell, but what happened was marvellous. In the matter of a few minutes bees came in scores, making straight for the window-sill, so they were evidently guided, and within a quarter of an hour the window-sill was covered with bees and the wasps were pushed off by sheer weight of numbers. I should mention that shortly after the arrival of the first half-dozen bees a hornet appeared on the scene, but was driven off by both wasps and bees, every insect rising to chase the hornet away. To pursue my argument, the next day I placed a similar quantity of honey on a window-sill of the cottage above mentioned, north of the hives. The wasps, as usual, were soon on the scene. I watched for some 30 minutes, but no bee appeared. I put down extra honey and went away. Returning some three hours after to see what was going on, I found wasps were there in force, but no bees This seems to prove that bees prefer to go south. There happens to be no bees within two miles of the cottage in a northerly direction. I am sure if there were they would have discovered the honey, as the cottage would be south to them.

I am glad to note in the B.B.J. a correspondent is following my example and discarding an American cloth covering next the frames, to allow of better ventilation in her hive. She mentions glass quilt for wintering. Why not? I think they are positively harmful in the summer, but in the winter I am inclined to advocate them—that is, if they have a hole in the centre This hole, when the feeder is not in use, need be only lightly covered, and if the hive roof has air inlets front and back, ventilation will take place. If the glass has no feeding-hole, it should be raised about one-eighth of an inch above the top of the frames, and then calico quilts so arranged as to drop over the edges front and back and both sides.

The nearness of autumn reminds us that it is time we looked through our hives to see that the brood chambers are nice and clean. Yadil or Izal will be sprayed lightly over the combs, choosing a warm day for this. Autumn, too, is the time to make some preparation for the next year's honey flow. Borage will be planted in every otherwise useless spot. Anchuras fill up many an odd corner. Gaps in the hedges will be filled up with slips of the Tee-tree, which takes root easily, flowers from May to October, and bearing a blue flower full of nectar, is beloved by the bees. Bees like blue best of all colours, purple and mauve being their next choice.

So every plant bearing a nectar-holding blue flower should have a place somewhere south of the apiary.—E. F. Hemming.

Notes from South Wales.

I have been very pleased to read Mr. Kettle's "Dorset Yarn" again, and I hope that he has fully recovered from his accident. From what he says, I should think that his bees have worked well while he was away, so as to give him a surprise when he returned to them. I have often noticed when one has been away from them for a fortnight what a big difference there is upon returning, in the way of bees or surplus. I remember going away for the last fortnight in July, I had two supers on one stock, and to make sure that they should have plenty of room, I put on two more, and to my surprise when I returned they had filled them all and capped them over. I had in all about 120 lbs. from them, and they had plenty for winter, but the dreaded "Isle of Wight" disease got hold of them, and they were all dead before Christmas.

This season has been the worst that I have ever known for surplus; it is strange that some have done very well, but, on the whole, it has been bad. I have seen several lots of new honey, and it all seems to be very good in colour and quality. I suppose it is like the old saying, you can't have quantity and quality at the same time.

I find that most all the bees I have here have got plenty of stores in the brood chamber. I examined one a few days

ago and found the queen had hardly any room to lay, on account of having so much honey there, so I took out three combs, extracted the honey, and returned them. In a short time she had started to lay in them, showing that she was in need of room. I don't think they would have had enough bees to go through the winter with, had I not given her room.

There were some classes for honey at the Aberavon Flower Show, and I must say that it was a very good lot of honey that was shown there, but there was not competition enough. It only goes to show that there is still plenty of room for bees and bee-keepers around the district. What I should like to see is as much competition in the honey classes as there is in the potato classes, and there is no reason at all why it should not be so; it would be more interesting to all. A friend of mine, who is just eighty years of age, made up his mind that he would show this season if he got as good honey as he did last year, but when we had a look we found that he had none at all, so he was very disappointed. When I explained to him that it was on account of letting them swarm so much that he did not have any honey, he was convinced that the system was wrong. It is surprising the interest that he takes in bees. Only this summer he took a swarm and hived it as well as any young man could. His father used to keep them in North Wales, and my friend came to Swansea, when quite a young man, and always had a desire to keep some, so when he settled down in a home of his own he had a skep and has kept them for over 40 years. About six years ago he went in for bar frame hives, he lost all his bees through "Isle of Wight" disease about three years ago, but he was lost without them, and soon had some more. At present he has five good strong stocks, and is expecting to have a good season next year.

We have a stretch of heather here which is just coming out, and given good weather the bees will be able to gather some surplus from it. I notice they have got very searching of late, and as soon as one opens up a hive to examine it, the robbers are there ready for action. I find it a good plan to work with a couple of lifts on, as the robber bees don't like the idea of going down to the combs, but as soon as one brings the comb up level with the top of the hive, they are on it at once; with a couple of lifts on one need not expose the comb so much, and, apart from that, it is a very good plan if one has to examine a stock when it is windy, it will protect the bees, and they will be much more pleasant to handle.—E. Boobier, Valley Apiary, Bishopston.

A Note from Lancashire.

The following is an extract from a letter we have received from a bee-keeping friend in Lancashire, and shows what may be done by intelligent management:

"You ask how my bees are going on—if I still have any. Well, when the war broke out, like the rest of the young men, I attested, and as I expected having to 'join up,' thought it better to sell some of my bees, as I had 32 stocks. I sold all but eight, but as I was driving a motor for a doctor at the time, he appealed for me three times. Finally I went before the medical board, but was rejected. In the meantime, as I was so unsettled, I kept selling stocks to keep the number down. My eight worked up to 16, so I sold six of them. The next season they increased to 17. This spring I sold seven, and now have 14.

"They all did well till after the middle of June, after that we had bad weather, and the bees could not get out. We had rough winds, rain, and even frosty nights. I am pleased to say the bees have always kept quite healthy, and hope I shall always keep them so, as I always do my best for them. I have never lost one in winter, and have had a fair amount of honey, last year 3¼ cwt., which I sold at 2s. 6d. per lb., customers bringing their own jars. I work for extracted honey, and could have sold a ton if I could have got it.

"This is the worst season I have had in 14 years, but must not grumble, as I have 2½ cwts. from 10 hives; the other four are new stocks but are on eight frames of comb each. All have plenty of stores, so will not need much feeding.

"The best take of honey I have had was in 1910, when from a 'Cottager's' hive I took 87 lbs., which I think is a record for this district. My hives now are W.B.C. pattern, and all my own make.

"I have just been eight miles to look at some bees I sold to a man. I fixed them up for him in the spring, later put supers on, have taken them off again, and now he wants me to extract the honey—expect he will want me to sell it for him as well. I have been 16 miles to another man, and another one 12 miles, so you will see when I have sold the bees I have not done with them. With my own, and the garden, also helping my father on the farm in my spare moments, as my brother is still in the Army, it keeps me going, I shall be pleased to welcome any bee-keeper who calls, and show them round."—M. Robinson, Leyland.

Cheshire Comments.

The honey season is over in this part of the country, and has been of very moderate quantity, owing to the excessive drought and the extremely cold weather of June and early July, when the bulk of white clover was in flower. We have a little heather, but only sufficient to help the winter stores, not enough for surplus. How Mr. Hemming sings the praise of Italians! Apparently he has not a good word for our native bees, and yet one hears of at least one instance where native bees have come out "top-dog." Last week I heard from a friend in the North-East of Scotland, who has three stocks of native, from which he has taken 2 racks of sections and anticipates a third. These bees are in the gardens of a gentleman's house, have had no treatment whatever, and have shown no signs of *Nosema Apis*, or any other disease, although all the bees in the neighbourhood have died, including four stocks belonging to a lady in a neighbouring village three miles away, who re-queened with Italian queens directly imported from Italy, and introduced early in September of last year. One of our principal bee appliance dealers in his catalogue still recommends the native bee. Years ago I kept natives with good results, my present bees are hybrids. I like the cappings over sections of the natives best, they are much whiter than the foreigners.

By the way, is not the term, "Native," as applied to the common brown bee, somewhat of a misnomer? Is not the real old English bee almost jet black, and those commonly called black in contradistinction to the lighter Italians, of Teutonic origin? I have at times come across some real black bees in my travels, usually in some out-of-the-way village, where the bees and their skeps had been handed down as family heirlooms.

I am afraid unless Miss Jenkins grows *Nepita Mussini* and *Limnanthes Douglassii* in huge quantities, she will hardly be able to judge whether they yield light or dark-coloured honey. The flowers one grows in the garden are as a drop in the ocean, compared with the myriads of honey plants in the pasture fields. Unless one grew at least a quarter of an acre of any one honey plant, it would be hardly possible to note the character of the honey it produced. The greatest yielding flower I know is sainfoin. The honey is of a darker colour than clover, and granulates more readily, but is delicious in flavour, and the plant yields such an abundance of nectar that it would pay to grow in quantity near a large apiary for honey alone.

I think the "sugary exudence" mentioned by Mr. Kettle was undoubtedly honey-dew. I have always found that either aphis or thrips were present in quantity on trees where this sugary substance is found. They may not be in evidence on the leaves, but would be found if the twigs were carefully examined.—CHESHIRE BEE.

Wickford Notes.

In your "Seasonable Hints" for August 14 you say "the Honey Flow is now over what there has been of it," yet Mr. Kettle tells us his bees are still working hard—so are mine and those of my friends near here.

I never had bees store so much honey in so short a time as they have since August 1—not even in June. There is no heather here—in fact, I know of none in Essex. There is a small field of radish seed in bloom a mile and a-half from my hives, also a large field of red clover, second cut. The white clover did not bloom till July 20, instead of June 12, and only lasted till August 12, and there was very little honey in it. There was no scent with it, and that is a sure sign there is no honey. I thought Mr. Kettle would have known this.

How glad we all are to know he is better and able to write to us again! We miss him as much as we did "Lordswood" of years ago. You promised us a reprint of "Lordswood," but so far you have not done so.

My bees have nearly filled the shallow bars twice this summer, and had to empty them again, but this (the third time) they have filled them up very quickly, and the capping is very white and clean.

What a lot of stray swarms there have been about! I was only able to get two of them—one on Peace day, July 19. On August 6 I was sent for late in the evening to take a large swarm from the crotch of an apple tree. The owner had tried to take them, but having got well stung, gave it up. When I got there it was nearly dark, so I had to take them by the aid of a bicycle lamp, the first swarm taken by me by lamp-light in 23 years.

We are glad to read the notes from France and Belgium. How real it all seems! What a wonder there are any bees left there at all!—C. REED.

[We are pleased to hear our correspondent has done so well, and others also. We also congratulate him on his good memory. A reprint of some of the late "Lordswood's" articles was promised some years ago, before the war, we believe. We must try and redeem the promise at an early date.—EDS.]

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Frame and Hive Design.

[9989] I see that the size of British Standard frame is again obtaining the attention of the writers of the B.B.J. While I agree that the area of the frames is too small for the Italian bees, yet I cannot see eye to eye with the writers who apparently wish to lengthen the Standard frame or bring one into use to partly replace it.

It would be a pity to produce a frame of such special size as to be unable to adapt it to the present brood chamber sizes. In my opinion, the present length, viz., 14 in., allows for the hive to be made in very handy sizes; also I would not increase the number of frames in it for this reason: I think a hive of the W.B.C. type is large enough when it measures not more than 21 in. square outside.

There is such a variety of sizes of hives, such a variety of designs, that to make a frame more than 14 in. long would naturally bring another host of different-sized hives, and a design once perpetuated seems to linger somewhere in the by-ways, and is never destroyed. We see, when hives are assembled at the heather, freaks of every description, and apparently from very early dates, so that it seems almost a crime to assist in the multiplication of designs.

I have several times taken comb out of places where the bees have built it without starters, and as they liked. It has generally taken the form of about nine combs, but what was most noticeable was that the comb was very deep in places. The centre comb would be 12 in. to 15 in. deep, the side ones gradually less, until the outer ones would be only 5 in. or so in depth. The width of these combs would be governed by the place they were built in, for at the top they were built right across the space; but they rapidly decreased towards the bottom, where they finished in a rounded point.

If we can take this as a guide, the proper form for a frame is not long and shallow, but fairly deep. This seems to me the correct form for conserving heat. A deep brood chamber must be more comfortable than a shallow one, with no depth for warm air to gather.

The doubling of brood chambers does not make an ideal hive; the break of the frames, which has been pointed out, is an objectionable feature. It is very seldom the top frame hangs in a line with the bottom one; sometimes it covers the spaces between the bottom ones, which must cause extra work for the queen and bees. I see that Simmins' frame of 16 in. by 10 in. is spoken favourably of for size,. We have a shallow Standard and a 9-in. Standard. Why not have a deep British standard? and if one was adopted to fit in a 12-in.-deep brood chamber, which would be a frame 11½ in. deep, the same area would be obtained as the Simmins' frame. We could make use of this size frame in all existing standard-size brood chambers by using a 3-in. eke under them; or, again, a single chamber may be made of two shallow boxes.

In following this plan there would not be any scrapping of hives by those who wished to use larger frames. This size frame, viz., 14 in. by 11½ in., would be suitable to winter on. One objection to double chambers is that it is troublesome to get the bees in the lower one for wintering, unless they are left with the two all winter.

The question of extractors naturally crops up with larger frames, but for my part I should be pleased to depend on the 6-in. and 9-in. frames for extracting, and leave the larger frame for brood-rearing only.

It would be an easy matter for those who are interested in larger frames to make a set of them themselves and give them a trial. Many a frame did I make years ago. No great alteration of the hives is necessary, as would be the case if frames longer than 14 in. were chosen.—F. B. CHARLTON, Stockton-on-Tees.

Frames.

[9990] It is very refreshing to read Mr. Manley's letter on this subject, (9968, August 21). I really think there is a strong feeling among our bee-keepers that the British standard brood frame is not ideal, and that some improvement is essential. Those of my acquaintance who have tried the 16 by 10 frame swear by it, but the argument against changing from the 14 by 8½ is expense. Surely preliminary expense is not paramount! There are doubtless many who would soon effect the change if the firms manufacturing appliances would list suitable brood boxes and supers, and not merely the 16 by 10 frames as at present. One

firm I wrote to promised suitable brood chambers and failed to supply them, whilst another firm did not know the measurements of the "Commercial" frame.

Probably if bee-keepers themselves took the initiative, and wrote the manufacturers inquiring for such things, they would quickly list them, but it is hardly to be expected that firms will use their factories to make articles which may, or may not, sell.

On the other hand, a go-ahead firm could quickly create a demand by judicious advertising, especially in THE BRITISH BEE JOURNAL.

This seems rather contradictory, but is, nevertheless, true. The former applies to the old conservative English firm, and the latter to the firm which is down to date, and we have both in this country. I am inclined to think there are plenty of the latter, and that, sooner or later, they will get going with larger frames, and suitable appliances for using them.

Might I, in conclusion, congratulate Mr. Kettle on his return to activity and yarns.—J. J. LIVERTON.

Standard v. Shallow Frame Hives.

[9991] If Mr. C. B. Collier doesn't care a Kaiser whether my criticism is constructive or destructive, perhaps I can help him.

I have kept shallow frame hives, with others, for a number of seasons, and for the purpose of honey production they are hard to beat, provided they are given the proper manipulation. I should not try to keep them in the popular W.B.C. hive, but in any case I dislike that type of hive.

I used them as follows:—As soon as the bees could be examined in the spring these shallow hives were reduced to one storey (two storeys always for wintering). Each storey contained ten shallow frames of comb. When the bees became strong enough they were given a second storey, and in late spring perhaps a third—that is, if strong enough. Having brood in all three storeys when the main flow commenced, the top storey was placed at the bottom, middle story was top (brood was up to top bars), an excluder was put on with extracting combs on top, and tiering-up was done as with any other hive. If swarming impulse was suspected, I simply tilted up middle chamber, when any queen-cells, if present, could be seen on the bottom bars. An advantage was that, with a medium or indifferent queen, only two shallow boxes were used as brood chamber, and as the one which was top became honey-bound owing to poor egg-laying qualities of queen, this was reversed and put under the bottom one, thus bringing the combs with brood up to top bars next to the supers, and also causing the bees to remove the honey from the under one and place it in the supers. Other advantages are self-evident.

Disadvantages were that, although two chambers were given for wintering, the bees always came out weak in the spring, although theoretically the space in centre of honey should have provided ideal wintering conditions. I always winter a few stocks in them: they are advantageous for my system of bee-keeping. Taking them on the whole, they are disappointing. If you want to make a change, use "Langstroth" or "Commercial." My "pater" got his first "Langstroth" either in '82 or '84, and they always gave better honey yields than the British; but old age has finished them off during my absence the last four years. The only objection to the "Langstroth" was their weight when full of honey, ten of these frames when full not being so handy in a super as ten Standard, and what was done latterly was to use ten British as supers.

Were I to start again, I should look into the hive Mr. Manley describes, as it is of a similar type to that used by me, with the advantage of accommodating a more sensible frame than the British, which I use with a 15½-in. top bar. The 17-in. top bar is nothing else but a timber-waster.—G. THOMAS, Burwell, Cambs.

[9992] In reply to C. Bertram Collier (No. 8871), *re* standard frames *v.* shallow frames in the brood chamber, I have this season tried the experiment in a sky-scraper hive, by placing 12 shallow frames on top of 12 standard frames in the brood chamber of an enormous colony of bees. I found the queen laying a large quantity of worker eggs on the standard frames, but in the shallow frames on top, workers were raised in very small quantities, quite one-third of the comb was utilised for drone rearing, the lower part of it and only a small portion in the centre for worker brood, and, of course, about one-third of the top of the comb for honey stores. The result was a needlessly large number of drones were reared, generally the bees construct out of all proportion a large percentage of drone cells on shallow frames. The experiment has proved to me the uselessness of shallow frames as brood chambers. Some years ago I put an early swarm on shallow frames, having no standard frames by me at the time, that was almost disastrous, and it has taught me never to expect many bees to be reared, or much honey

produced, by using shallow frames in the brood chamber, but to use standard frames only for that purpose. Hoping this will help your correspondent.—HARRY PARSONS.

[The shallow frames should have been fitted with worker base foundation.—ED.]

Standard Hives and Larger Frames.

[9993] *Re* the question of standard hives and larger frames, I suggest that a meeting of practical bee-keepers be held at the forthcoming Grocers' Exhibition to discuss the question to see if some useful end may be arrived at.

If two brood chambers are advantageous, surely a deeper frame would be handier for manipulation and serve the same purpose.

THE BEE JOURNAL is not large enough for all bee-keepers to air their opinions, but a corner of the Agricultural Hall may accommodate a few.—W. BROADHURST, St. James's Cottage, Alperton, Middlesex.

The Return of the Honey Bee.

[9994] The enclosed article appeared in the "Bristol Times and Mirror" of August 9, and as I am accused of "not having the courage of my opinions," for sending these remarks to a local paper instead of direct to THE BRITISH BEE JOURNAL, I should be grateful to see the subject aired in your columns.

Of course, I know that in cases of "Isle of Wight" disease, or where there is any question regarding the healthiness of the bees, then precautions must be taken when visiting other hives, as to suitable disinfecting of one's hands and any apparatus used.

My contention is, that for youthful enthusiasts to try and lay down hard-and-fast rules tying down all bee-keepers to touch no other bees than their own, is nothing short of absurdity.

With regard to fussiness and the wearing of gloves when handling bees, I am quite sure that I shall have your absolute approval—I can vouch from my own experience that any nervousness, and lack of confidence, does in a most extraordinary way communicate itself to the bees. And thus a fussy bee-keeper makes the bees irritated and "nervy."—M. KENNEDY BELL.

[We quite agree with the above.—EDS.]

THE RETURN OF THE HONEY BEE.

"This summer has seen the re-stocking of many hives, empty, alas, of their busy inmates for the last few years through that dreaded scourge, the Isle of Wight disease. Now, happily, its ravages have abated their full force, and the bee-keeper can be happy once more at his old employment. Some few years ago experiments were made with introducing the Dutch strain of bees into this country, but the scheme was not very practicable, as the Dutch bee is an inveterate swarmer, and did little or no work with us the whole summer through. Now, however, that difficulty has been overcome, and a healthy strain introduced by crossing the Dutch with the Italian bee. This cross produces a hard working bee with a very excellent constitution. Some bee-keepers complain of the bad temper of this strain, but those of long experience say it is merely a question of handling, this special strain of bees are more alive to 'fussiness,' and need a quiet and confident hand.

"The lengths to which people's fussiness will carry them are rather amusing. A young and enthusiastic amateur bee-keeper was discoursing with a friend on that noble topic recently, and her wrath with her friend knew no bounds because the friend had handled bees other than her own. 'The very way to spread "Isle of Wight" disease: no one else has any business to touch a bee other than their own,' and so on, ad infinitum. As though the bacillus causing the "Isle of Wight" (whose name is *Nosema Apis*) could be carried about on one's person, or might be infectious to human beings.

"Among the writings of the old philisophers there are some very interesting facts concerning the marvellous and psychic perceptions of the honey bee. Numerous cases are known of bees attacking people who have gone to their hives in anger, or in a state of nervous excitement or exhaustion. The bees know perfectly well, and there are some people who would never make good bee-keepers either on account of their restless disposition, or nervousness. The timid bee-keeper who approaches the hive in a pair of gloves alarms and angers the bees. They can feel no confidence in his operations owing to the clumsy way in which he handles them, due to the gloves. Probably before the hive is examined the bees will be in a perfect state of alarm and indignation, and one timid friend will be complaining bitterly of the fierceness of his bees. Pliny solemnly cautions thieves and criminals of all sorts against approaching hives of bees at any time, and Butler, a devoted student of bee life, living in the reign of Queen Anne, gives most elaborate advice as to the necessary qualities and virtues of the good bee master.

"And don't you hate where bees are,
Or else they'll fly away,
Pine away, divine away—
Anything to leave you.
But if you never grieve your bees
Your bees will never grieve you."

Demonstrations at Shows.

[9995] I am a town dweller, having a small allotment garden of 800 square yards three miles from home. Having planted a number of fruit bushes I thought as there were no bees in the neighbourhood it would be well to procure a hive and stock, which I did last July.

Having no knowledge of their requirements I joined the County Bee-Keepers' Association, hoping to gather some information on the subject. In the columns of your journal I was delighted to see the announcement of an exhibition, with lecture and demonstration, under the auspices of the Association of which I am a member, at an agricultural show some 24 miles from home. I and my daughter journeyed there in the hope of learning how to treat my insects during the coming winter. We arrived on the ground about four o'clock, and made straight for the bee tent, where we found a notice posted that the lecture would be given at three o'clock. Beyond an observation hive and a few jars of honey there were no appliances or anything to interest a beginner, and the lecture had apparently taken place at a time the admission to the ground was 4s. each, whereas at four o'clock the fee was only 2s., so we caught the next train for home, having had a very disappointing and expensive afternoon, without gaining an atom of experience.

If the lectures and demonstrations of this Association are exclusive to the county gentry, as the time and admission fee would indicate, I have no right to complain, but if they are intended for all and sundry subscribers, is it good management to arrange them at a time the admission fee makes attendance impossible to many members?—C. F. Brown.

[We print the above that those responsible for lectures at shows may take note. In this case there appears to have been bad organisation somewhere. If a lecture was given so early in the afternoon, it would have been better to have given another about five o'clock.—Eds.]

Experiences of Another Amateur.

[9996] I was greatly interested in reading the "Experiences of an Amateur" in the Bee Journal of August 21.

I, like "F. F. P.," have had never-to-be-forgotten experiences of "Isle of Wight" disease—first in 1913-14 and again in 1917-18, on the latter occasion losing six out of seven stocks. The one stock left (half-bred Goldens) gave me 173 lbs. of honey last year, and left me with five good stocks for this season.

This year I might have increased to almost any extent, and I think, with hybrids and Italians, our methods will have to be revised.

Like "F. F. P.," I think the elaborate instructions on how to prevent swarming, and bees on 20 frames, etc., are quite beyond the ordinary bee-keeper, with only a limited time at home.

My own opinion is that the best way to control swarming is to *let 'em swarm*, or divide the stock in May, as I did last year, when I found that the lot with the old queen worked well and stored surplus, but the lot left to raise its own queen promptly threw off a swarm when the first queen hatched.

I have now (August 25) a lot of Italians sent me as a three-frame nucleus on July 18 (one of the few warm days of that very cold month). I had to feed these to keep them alive, and not till July 31 dare I trust them to get their own living. Yet they occupied ten frames by August 18, and hung out of the hive in a great cluster, so that I gave them a super of extracted shallow combs to make room for them.

According to the bee-papers, the honey season is over, but my bees are, or have been, storing very heavily from some source, and, as I have ceased to be surprised at what bees do, probably my Italian nucleus will fill up this super!—R. H. A. (Norfolk).

Honey Syrup for Bottling Fruit.

Honey syrup is far in advance of sugar syrup for bottling fruit, especially raspberries, the natural flavour being thereby retained. The fruit also remains whole and has the appearance of having been newly gathered.

Honey syrup is prepared by dissolving half a pound of honey in one pint of water that has just come off the boil. The water should not exceed a temperature of 194 deg. F., or the aroma of the honey will be entirely lost. The fruit is then dropped into the syrup, the whole being kept at a uniform temperature before being sealed over.

—*The Western Honey Bee.*

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

September 10 and 11.—Portsmouth and District Bee-Keepers' Association, in conjunction with Portsmouth Allotments Association, at Town Hall, Portsmouth. Open Classes for Honey, Sections, and Shallow Frames, etc. Schedules from Hon. Sec., J. SINNETT, 154, Essex Road, Southsea.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

October 21 to 24, Dairy Show, Royal Agricultural Hall, London.—Particulars of the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1. **Entries closed.**

Special Prepaid Advertisements.
One Penny per Word.

PRIVATE ADVERTISEMENTS.

THREE strong Stocks in almost new W.B.C. Hives, extra frames, supers, clearer, excluders, extractor. Purchaser to remove.—CARLTON, 13, King's Avenue, Woodford Green, Essex. u.28

1919 QUEEN, first cross Native and White Star, Simmins' strain, 7s. 6d.—GREEN, New Dale, Wellington, Salop. u.29

7-FRAME STOCK, Hybrid Italian, 60s.; box, returnable, 10s.—MEED, Dunraven Avenue, Salfords, Surrey. u.30

STOCK GEESE.—Pure White Embden, pen two geese and unrelated gander, £3; crate 15s., returnable; cash or deposit.—J. MOORE, Bleasby, Notts. u.31

FOR SALE, two two-framed Nuclei, with 1919 Italian Queens, 25s. each; two good Queens (Italian), 1919, 10s. each.—PEARS, Woodside, Scotby, Carlisle. u.32

HONEY, about 2 cwt. best quality, for Sale.—LE FRANCOIS, 26, Westgate, Sleaford, Lincs. u.33

WANTED, two strong lots of healthy Driven Bees.—Particulars and price to C. CLIFFE, Little Sutton, near Birkenhead. u.34

BEESWAX, about 80 lbs. light, 50 dark; offers; cash or deposit.—LANDIN, 101, New Road, Woodston, Peterborough. u.35

FOR SALE, Extracted Honey, £10 10s. per cwt.; preferred purchaser send tins; f.o.r.—J. H. ROPER, Thorpe-on-the-Hill, Lincoln. u.36

A FEW strong, healthy Stocks on 10 frames, 1919 Queens, £4 each.—MINCHIN, London Road, Greenhithe. u.37

HONEY for Sale, £10 10s. per cwt.; sample 6d.—ASHWORTH, Heytesbury, Wilts. u.39

HONEY.—Pure Cambridgeshire, 1919, crop, tins and screw-top jars. What offers?—Box 45, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. u.38

FOR SALE, a few Native Queens, 1919, price 7s. 6d. each.—ASHWORTH, Heytesbury, Wilts. u.40

STANDARD HIVES for Sale, five, clean as new, no disease, removing, £1 each; two large Skeps, unused, 3s. each.—CLEGG, Old Newton, Stowmarket. u.41

SEVERAL dozen ½ lb. and 1 lb. bottles of good coloured Honey from my own apiary, also in bulk. Offers.—L. W. MATTHEWS, 25, Cray Road, Crockenhill, Swanley, Kent. u.42

17 HIVES, painted this year, 15s. each.—CRACKNELL, Bells Lane, Hoo, Kent. u.43

TWO excellent Queens, 1919, Italian cross, 8s. 6d. each.—COOMBER, Hamsell Cottage, Penshurst. u.44

FOR SALE, strong, healthy Stocks; also 1919 Queen, 7s. 6d.—DAY, St. Asaph, Stevenage. u.45

FOR SALE, pure light English Honey, 56 and 28-lb. tins, £10 10s. per cwt.; sample 4d.—THOMPSON, Helpringham, Sleaford. u.46

WANTED, Plums (Victoria preferred) for bottling; Pears and Apples, dessert and cooking, good keepers; also 10 Pullets, March or April hatched, for cash, or exchange healthy Stocks of Bees with 1919 Queens.—DIXON, 22, St. Mary's Mansions, London, W.2. u.47

RICH, dark Heather Honey, strained, and very thick, in 7-lb. and 14-lb. tins, tins and crates free, per lb. 2s. 9d.—REV. R. DOUPE, Maam, Co. Galway. u.48

RE-QUEEN and strengthen now. 3-frame Nucleus, 1919 Queen, 27s.; 4-frame, 35s.—BARNES, 20, Bourdon Road, Anerley. u 50

TWO strong, healthy 10-frame Stocks Hybrid Bees for immediate disposal, ample stores, £3 10s. each, carriage paid.—2, Jubilee Terrace, Stambridge Road, Rochford, Essex. u 51

FOR SALE, complete Apiary, 12 Stocks Bees, guaranteed healthy (Leicester).—Box 46, B.B.J. Office, 23, Bedford Street, W.C.2. u.52

FIVE Overton's double-walled Hives, lift and section rack; one rack drawn-out Shallow Combs, Queen Excluder, Slow Feeder, Rapid Feeder, Smoker, full Section Rack, Starters; disease free; lot £8 10s., or separately.—"Edgworth," Belvedere, Kent. u.53

SURPLUS STOCKS, Italian, 8 and 10 frames, 70s. and 80s.; travelling box returned.—DR. JONES, Peatling Magna, Leicester. u.54

RETIRING from the show bench.—Will sell cheap my well-known Trophy Stands, Observatory Hives, Nucleus Hives, Shallow and Brood Boxes, Excluders.—Particulars and photos, DELL, Leigh, Lancs. ru.2

WANTED to rent or buy a Cottage within five miles of Warwick with some ground suitable for bee-keeping. Must be fairly accessible by train, tram or bus. Cottage on farm with permission to stand hives in orchard would suit.—Write, Box 42, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. u.3

PLUMS.—Wanted, 1 cwt. or more best Plums, in good condition.—Price, on rails, to 16, Church Road, West Kirby. u.12

SIX-FRAME STOCK, Hybrid Italians, 70s.; box, returnable, 10s. English Honey wanted.—LEE, "Little Bowden Apiary," Burgess Hill, Sussex. r.u.13

The 'Kent' Standard Model Hives & Appliances

TESTIMONIAL. *May 12.*

DEAR SIR,—I have had an opportunity of comparing the material and workmanship of your hives with others on the market, and in my opinion there is no sort of comparison between the two, yours being altogether superior in every particular.—Yours faithfully,——

S. J. BALDWIN, Stanley Road, Bromley, Kent

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

1919 GUARANTEED imported fertile Golden Italian Queens, big supplies during August and September, 12s. each; specially selected, 15s.—GOODARE, New Cross, Wednesfield.

HEALTHY Driven Bees, with fertile Queen, 10s. 6d.—12s. 6d., carriage extra; also case 5s., returnable; fertile Queens, 6s. 6d.—W. WOODS, Normandy, near Guildford. u.55

THAT FLAVINE TREATMENT AGAIN!—Of course you have all read how it stains and messes up your hives—but it gets there all the same. Six packages, with the Golden Circular, testimonials, etc., 6d., post paid.—SMITH, 30, Maid's Causeway, Cambridge. u.56

HEALTHY Driven Bees, with Queen, 7s. 6d. per lot; boxes and cash with order. Boxes sent to Hatfield Peverel Station, G.E.R.—J. WHITE, Fairstead Hall, near Witham, Essex. u.57

RE-QUEEN FOR 1920.—Imported Italian Queens, 12s. 6d.; Hybrid Italian Queens, 9s. 6d.; English Queens, 7s. 6d. Safe delivery guaranteed. Catalogue free.—C. T. OVERTON & SONS, Crawley. u.58

HEALTHY Driven Bees, with Queen, 9s. 6d. per lot, carriage paid; cash with order; boxes returnable; immediate despatch.—PULLEN, Ramsbury, Hungerford. u.59

YOU WANT NOW
EXTRACTORS, FEEDERS, HONEY TINS AND PACKAGES,
and our new perfect Wintering Board.
MEADOWS,
SYSTON, LEICESTER.

ITALIAN QUEENS

Direct from Italy.

Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.

For 1 Fertile Queen: Aug., Sept., 9/-

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

A B C AND X Y Z OF BEE CULTURE.

By A. I. and E. R. ROOT.

We have just received a number of the 1917 Edition. All Bee-keepers should possess a copy of this comprehensive work.

Price, post free, **13s. 9d.**,
from the BRITISH BEE JOURNAL Office, 23, Bedford Street, W.C.2.
(Sold by other houses at 15s. 9d.)

Italian Queens
direct from Italy.

Address :—
E. Penna, Bologna, Italy.

All the queens I can rear have been booked up to the end of the season. Within December, the Price List for 1920 will be sent on application.

Books for Bee-keepers
NOW IN STOCK.

		Postage
A.B.C. and X.Y.Z. of Bee Culture (ROOTS)	13/-	9d.
A Modern Bee Farm (S. SIMMINS)	7/6	6d.
Alexander's Writings on Practical Bee Culture	2/6	2d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	3d.
Dissectible Model of Queen Bee	4/6	3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	1d.
Fifty Years Among the Bees (DR. MILLER)	5/-	5d.
Honey and Health (A. HOPE)	-/6	1d.
Honey and Its Uses (REV. G. BANCKS)	-/1	1d.
Honey Vinegar (REV. G. BANCKS)	-/2	1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	6d.
Langstroth's The Hive and The Honey Bee	7/6	6d.
Maeterlinck's Life of the Bee	3/6	6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	2d.
Productive Bee-Keeping (PELLET)	7/6	6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.)	2/-	3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	2d.
Scientific Queen Rearing (G. M. DOOLITTLE)	3/6	4d.
Snelgrove's Method of Re-Queening	-/6	1d.
The "Townsend" Bee Book	2/6	2d.
WAX CRAFT (T. W. COWAN)	2/-	2½d.
Winning a Living on Four Acres (F. A. MORTON)	-/7½	1½d.
Wilke's Book on Swarming	1/-	1½d.

MISCELLANEOUS.

The Lore of the Honey Bee. By TICKNER EDWARDES. 2/-, postage 2d.

The Humble Bee. By F. W. L. SLADEN. 12/6, postage 6d.

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I doused the bees from the top of the combs . . in a few days all signs of sickness had disappeared . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process

"Amateur"

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

SEASON 1919 **"QUEENLAND"** SEASON 1920

NO MORE ORDERS FOR QUEENS UNTIL FURTHER NOTICE.

CASH ORDERS FOR 1920.

In reply to numerous applications, and to avoid return of many enclosures, it is necessary to state that no cash (and no orders, please) can be accepted for 1920 until the new year is in.

Prices for 1920 increased to 21/-

Simmins' original "A" Class must be advanced to 21/- as he is no longer able to compete with the demand at the price charged for 25 years past.

1919 Orders not Completed remain at Old Rate.

Where clients prefer not to cancel, standing orders not completed will remain for 1920 at the original price, but no further orders can be carried forward at that rate.

QUEENLAND, HEATHFIELD, SUSSEX.

THE

British Bee-Keepers' Association.

Insure *now* against loss by damage done through bee stings. All particulars from

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

HONEY AND BEESWAX PURCHASED.

Run Honey in bulk. Sections per gross.

HONEY FOR SALE.

Cuban, Californian, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON ROWE, 28a, Moy Road, Cardiff.

Seasonable Hints.

Bees should now be fed up as rapidly as possible in order that they may be able to get the stores properly ripened and sealed before cold weather sets in. If the weather is suitable a little nectar will still be gathered from late flowers. We notice that ivy near our apiary is on the point of blooming. Bees work this assiduously, and it is one of the latest nectar yielding flowers. Keep entrances close for the present to guard against robbers. Wasps will be more troublesome now the fruit is being gathered. If a little time can be spared during the day they may be tracked to their lair and the nest destroyed. This should be done whenever possible. Better dig the nest out, and for those who have the time and opportunity for fishing, wasps grubs will be found a killing bait for several kinds of coarse fish, especially chub and roach.

Drones will for the most part have been killed off. Any hive with a large number should be viewed with suspicion, and an examination made to be certain that the queen is all right. Re-queening and uniting may still be proceeded with, the sooner they are done when necessary the better. In the evenings shallow frames may be cleaned and packed away for the winter, and sections cleaned, graded, and made ready for sale. It is also a good plan to note anything that may be required for next season as the clearing up work proceeds, and if possible place the order so that it can be executed during the winter. It will prevent disappointment and ease the manufacturer next spring.

A Dorset Yarn.

Our bees have had a delightful week, shallow combs and sections are still being capped over, breeding must be still going strong beneath, or else they have filled the available cells with nectar and have to go above with stores that are being collected. There are plenty of flowers for them just now at the farm, long lines of raspberries are covered with bees from early morning till late at night, perpetual fruiting strawberries have a great number of them, and runner beans have a good share. Ivies are in bloom, but wasps have the monopoly of these peculiar flowers. It shows that the fruit grower is the most favoured with bees, because of plenty of food close to the hives. Honey is still eagerly sought after; quality must be all right, as the same people come again and send others, but it is section honey that is most in demand. They tell me there is plenty of run honey in Bournemouth, but it has not the flavour of sections—everyone to their fancy—still it all adds to the right side of accounts at the farm. They see the fruits and take some with them; they see the bees on the rasp. flowers, and think it is the best honey. The large apples and pears show that the bees fertilised each flower, as all seeds are plump and perfect. If only some are fertilised the fruit has not the same perfect symmetry, the sweet pulpy envelope that surrounds the seed will be thicker on the side where the seeds are fertilised. There is a far greater interest taken in bees than has ever been. When visitors can see them beneath the glass covers in summer, they go away more interested than before. In the local markets section honey makes 2s. 6d. and 2s. 8d. when put up in dozen lots.

A writer in the JOURNAL sends to me that he has purchased a fruit farm for his son, now out of the Army, and started him with bees. He has his chance for fortune. A fruit grower who has retired and lives in Bournemouth, assured me he made his in 20 years, and has now leased his farms in Cambridge to others. He is now starting his two nephews in growing stuff for local markets. I saw them with a motor lorry selling their stuff in Bournemouth last week. "What man has done man can do." If our friend has bees he has a greater chance of quick fortune than the man who has not. Beside, bees will give him a greater interest in country life, as they are an object lesson for industry and perseverance.—J. J. KETTLE.

Demonstrations at Altrincham Show.

Demonstrations with bees will be given at the above-named show on September 24 at 12 o'clock noon, and 3 p.m., by Rev. Canon T. J. Evans, M.A. Both the lecturer and the secretary of the Cheshire Bee-keepers' Association will be ready to answer any questions on bee-keeping after each lecture.—E. W. FRANKLIN.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of August, 1919, was £46,683.—From a return furnished by the Statistical Office, H.M. Customs.

Jottings from Huntingdonshire

I am frequentlyy leg-pulled by bee-keepers for my persistent praise of the Italians, and I see in the last issue of the JOURNAL a correspondent hiding his identity under the *nom-de-plume* "Cheshire Bee," in a very interesting article, has a dig at me. I may be wrong, but I rather fancy I could locate your correspondent; whether or no, I feel inclined to state quite frankly that my praise of Italians has a purpose. Writing from Huntingdonshire, I am anxious for bee-keepers, at least in this county, who have lost native stocks by the score, to try again with bees of the Italian strain. I am not fishing for orders, but I do want to see the honey industry revive. Natives have proved disastrous; Dutch annoy many by their swarming proclivities, although for restocking they are not to be surpassed; while Italians, pure or hybrid, have proved themselves capable of resisting *micro sporidiosis*, multiplying apace, and gathering honey in large quantities. None the less I rejoice when I hear of stocks of natives coming out "top dog." In fact, I have bespoken a swarm of natives from an apiary which has never known disease. It is a question of the survival of the fittest. Some native stocks will undoubtedly show themselves able to withstand the ravages of "Isle of Wight" disease. The great thing is to discourage in-breeding. One generally finds apiaries strong in Italians are conducted by owners who frequently introduce new blood into their hives, while one often comes across people who have kept native stocks by the score, but have never seen an Italian or if they have could not say whether it was an Italian, or, for that matter, an Egyptian, or Bohemian, and since I have yet to hear of any Italian bee-keeper in this country who has lost a single stock as a result of *Nosema apis* I must sing their praises. I should like here to assure "Cheshire Bee" that when I speak of natives I mean the bee indigenous to English soil—the black British bee. The common brown bee was imported, I believe, in 1820 or thereabouts, by the Rev. J. Wood, and has increased apace. Like the common brown wild rabbit of our fields and woods, which was introduced into Britain by the Romans, the common brown bee has vastly outnumbered the native in many parts of this country. In this county, however, the black British bee has held sway until these last few years, when disease has tri-decimated their numbers. With all my praise of Italians, I doubt if they could beat a vigorous stock of Italian-British hybrids in honey gathering. New blood, strong and hardy, is what we want in the bee world. Another argument often hurled against me is that trees and church towers are full of natives, which have been there for years. Is this always correct? My attention was called some time ago to some bees which had their home in an ash-tree. My informant was a man of middle age, and he remembered bees being there from a boy. His father also could not call to mind when there were no bees there. I asked permission to try and take them. This being given, I got a ladder, improvised driving irons, a smoker and skep. On ascending the tree I was not surprised to find the bees were as healthy a lot of Ligurians as one could wish to see. What had happened? The natives some time had perished, and a swarm of Ligurians, finding comb and stores in plenty, had taken possession and were carrying on. Let me give another instance. A friend of mine came to me a year ago in great distress, and asked my advice with regard to some bees in his roof. They were dropping in dozens on to the drive and crawling about unable to fly. I advised him to kill every crawler he saw, sweep up and burn those already dead, and water the drive—which was not large—with some fairly strong disinfectant solution. Last May he informed me that the bees in his roof were more vigorous than ever, and he regretted his inability to reach them. Watching these bees among the flowers, one saw at once they were Dutch. The same thing had happened. A Dutch swarm from some colony in the neighbourhood had taken possession. I know of some Ligurians which took possession of an old skep that had previously held natives, and, what is more, arrived within a month of the old stock dying off. With these facts in mind, I am always sceptical when I hear of natives being handed down from generation to generation. I am quite prepared to admit there are cases where natives have successfully resisted the "Isle of Wight" disease; I know of some, but they are exceptional.

The rack of shallow frames I put on my strongest stock last week is getting filled with honey, mostly gathered from the purple clover. But the ivy is flowering, and that is a sure and a certain sign that very little more honey will be gathered this year. Another stock had so much honey in the brood chamber that I was obliged to take out a couple of combs and extract. I simply hate extracting honey from brood chambers, but, as Mr. Boobier has reminded us, the queen needs room to lay, so I had to sharpen my uncapping knife and harden my heart, to give her majesty a chance to increase her progeny

ere the honey flow ceases. How the bees are enjoying this heat wave! The harvest moon, too, has enabled them to work away till well after sunset. Italians, of course, are first out and last in. There, I am praising Italians again! (The word Italian flows from one's pen as easily as split infinitives.) What a good thing Italy was an Ally of ours in the Great War! Had she have joined up with the Central Powers our conscience would be rather uneasy and we should look askance at those bees from the Mediterranean and Adriatic shores. Ah, well, I am after all quite glad that the It—— (it nearly slipped from my pen again) golden insects can beat those bees of Teutonic origin.—E. F. HEMMING.

Stray Notes, Comments and Questions.

Agreed on "Seasonable Hints" (p. 369, August 28), especially the last paragraph. I consider that the British bee-keeper should breed from a good strain once he is sure he has one. In the years that preceded 1908 I had worked up a good strain of natives, with just a trace of Ligurian blood. Unfortunately, I had to give up bee-keeping then for a number of years. I did very well selling swarms in those days, not at present prices though, supplied our former Junior Editor, Mr. W. Herrod-Hempsall, with not a few.

I think Mr. Hemming would not care for the stuff his bees gather from the woods if stored in the surplus chamber.

One would like to know what amount per hive a *good* season yields in the Glastonbury district, if an average season yields 190 lbs. In the old days referred to above, I thought myself lucky if I averaged 50 lbs. per stock, including swarms. My largest take was a little over 100 lbs. from one stock, which did not swarm, but then my harvest only lasted eight weeks. Mr. Lancelot Quayle, of the Isle of Man, used to hold the record with, I believe, 255 lbs. I wonder who holds it now?

I once tried a similar method to Mr. A. E. Taylor to control swarming, but was troubled by the bees building comb between outer and inner walls.

Would Mr. Charlton tell us from what flowers his bees collected pollen so late as November 14 last year?

One wishes one's apiary was situated at Steeple Gidding. My bees turned out their drones the third week in July. On examination of conditions in the brood chambers last week, a shortage of stores was revealed. Feeding with candy will have to be resorted to. This in hives from which practically no surplus was taken. This is my first year of bee-keeping in this district, and is not encouraging; but as "hope springs eternal" in the bee-keeper's breast, one hopes for better luck next year. The past season reminds me of 1907, which was the most disastrous year for honey I ever experienced. Plenty of swarms but no surplus. I scarcely averaged 10 lbs. per hive from 25 hives, and the majority had to be heavily fed for winter. The following year was a splendid season. The cause of failure in 1907 was excessive wet and cold; this year, in this district, excessive drought and cold.

With regard to American cloth (9985) as a cover to frames, I have seen the tops of combs quite mouldy from its use in winter. I find the most satisfactory covering to be a piece of calico next frames, and then about half a dozen thicknesses of stair carpet of the cheaper kind. It is very important that hive roofs should be absolutely watertight. I always stretch a piece of cheap calico over mine. First a thick coat of paint, then the calico, and another thick coat of paint over all. No weather will penetrate that. —D. J. HEMMING. Runcorn, Cheshire.

Cheshire Bee-keepers' Association.

ANNUAL SHOW.

The Cheshire Bee-keepers' Association held their annual show at Knutsford, on September 3, in conjunction with the Mid-Cheshire Agricultural Society's Show, after a lapse of five years. Although the entries were few in number compared with previous occasions, the quality of most of the exhibits was very good. Mr. E. W. Franklin judged, and made the following awards:—

Twelve bottles of run or extracted honey, gathered during 1919, approximate weight 12 lb.:—1, A. Jackson, Thetford; 2, S. Littler, Helsby; 3, J. C. Dutton, Wrexham; r, J. Birkett, Rainhill.

Observatory hive with bees and queen, each comb to be visible on both sides:—1, B. T. Abell, Blythe Bridge, Staffs; 3, F. Clarke, Mobberley.

Six sections of comb honey, gathered during 1919, approximate weight 6 lb.:—1, J. C. Dutton; 2, W. Emery, Whitegate.

Twelve bottles of run or extracted light-coloured honey, gathered during 1919, approximate weight 12 lb. (B.B.K.A. standard of colour):—1, J. C. Dutton; 2, W. Emery; 3, T. Alun Jones, Halkyn; r, J. Harrop, Allostock.

Twelve bottles of run or extracted

medium-coloured honey, gathered during 1919, approximate weight 12 lb. (B.B.K.A. standard of colour):—1, W. Bradburn, Bramhall; 2, J. C. Dutton; 3, T. Alun Jones; r, Rev. Canon Evans, Knutsford.

Two shallow frames of comb honey, gathered during 1919:—1, Rev. Canon Evans; 2, T. Alun Janes.

Exhibit of not less than 1 lb. of wax, the produce of the exhibitor's apiary, extracted and cleaned by the exhibitor or his assistants; to be exhibited in pieces similar in size and shape:—1, J. C. Dutton; 2, W. Emery; 3, T. Alun Jones; r, F. Clarke.

Twelve bottles of run or extracted honey, gathered during 1919, approximate weight 12 lb.:—1, T. Alun Jones; 2, W. Emery; 3, W. Burrows, Allostock; r, F. Clarke; vhc, J. H. Shaw, Winsford.

Six bottles of run or extracted honey, gathered during 1919, approximate weight 6 lb.:—1, F. Clarke; 2, J. Bowler, Mobberley.

Mr. J. C. Dutton won the silver spoon presented by the C.B.K.A. to the competitor scoring the highest number of points, and Mr. W. Emery the electro-plated spoon for the next highest.—E. W. F.

Chesham and District Bee-keepers' Association.

Since the initiation of the above association in the spring of the year there have been 27 members enrolled, 24 of whom possess their own stocks of bees. Encouraged by this result, notwithstanding the unfortunate honey season, the committee decided to take advantage of the local allotment holders' show on August 30, to arrange for an exhibition of honey by members only. A stand was kindly provided by the Allotment Association, and prizes were offered in two classes.

Leaflets were obtained from the Board of Agriculture and distributed gratis, keen interest in the industry being aroused among the visitors.

The results were highly complimentary and satisfactory in every way and fully commensurate to the effort made.

The prizes, kindly provided by A. W. Gamage, Esq. (London), and Lady Chesham were awarded as follows:—

Class A.—Display of Honey:—

1. Mr. Gilbert (10s. 6d.).
2. Mr. F. Hobbs (5s.).

Class B.—Three 1-lb. jars Extracted Honey:—

1. Mr. A. Stephenson (10s. 6d.)
2. Mr. Gilbert (5s.).

The best thanks of the committee are due to Messrs. Woodhouse, Royal, and Channer, who acted as judges, and gave general satisfaction.—E. A. H., Hon. Sec., 178, Berkhamstead Road, Chesham.

Kent Bee-keepers' Association.

ANNUAL SHOW AT MAIDSTONE.

In connection with the Kent Bee-keepers' Association a county honey and appliances show was held at Maidstone Technical Institute on Saturday, and attracted a large attendance.

At the opening, Mr. Alfred Dewey (of Wilmington), Chairman of the Association, who presided, explained that this was the first county show to be held under the auspices of the Association, which desired to encourage bee-keeping in every possible way. There was no doubt that such exhibitions as that were of great value to bee-keepers from an educational point of view. The Kent Bee-keepers' Association had been in existence a short time. It started since the war from the small Association at Crayford, and the membership now numbered nearly a thousand. (Applause.) For the benefit of its members the Association arranged a series of summer lectures, and also lectures for the winter season; and it was hoped that they would presently have help from the County Council in the shape of a paid expert. The Association undoubtedly hoped for great things in the future. (Applause.)

Sir John Cockburn, K.C.M.G. (Vice-President of the Association and an enthusiastic bee-keeper) who had consented to open the show, made an interesting speech before doing so. He first reminded those present that bee-keeping created a sort of fellowship among people who were strangers previously, and that the moment they found they were bee-keepers they became fast friends. (Hear, hear.) The Kent County Council was to be congratulated on the enlightened interest it took in bee-keeping. This industry, always important, was doubly so in days of sugar shortage, for honey could with advantage be used as a substitute. Sugar was an essential element in food. Many medical men had mistakenly decried it. They maintained that our forefathers got on very well without it, forgetful of the fact that they relied largely on honey in their food and drink. Sugar was the natural food of the young and was the most easily assimilated of all foods, and honey was the best form of sugar. It passed into the blood practically without change, and was a most valuable stimulant in cases of fatigue. A few raisins or fruit of that kind would do more to restore mental or physical vigour than alcohol or any of those other miserable substitutes. (Applause.) He did not know what he would have done during the war owing to the rationing of sugar without his honey. He used honey in sweetening almost everything. He used it in coffee, and it was

also quite acceptable in tea. Bees well deserved all the love and attention that could be bestowed upon them. There was reason in the popular superstition that bees would not prosper unless the hives were decorated or draped at times of national rejoicing or mourning, and that such events as weddings or funerals in a family should be duly communicated to them. These observances meant that the man who did not forget or neglect his bees, even in times of calamity or excitement, had his reward in honey. He (Sir John) thought the epidemic of "Isle of Wight" disease was passing away. One winter he lost all his stock, 15 hives, from this scourge. He found that sometimes bees in skeps survived when those in frame hives perished. He had lately combined skeps and hives by placing the skep when full of bees on a brood chamber and enclosing the whole with lifts and a cover. Wintering thus had proved successful. Many lessons could be learnt from bees. To mere males the part played in the hive by their sex was humiliating. In the campaign for woman's franchise he used to say "Go to the Bee thou Anti." In the task of reconstruction the public spirit, the industry, and the devotion to duty manifested in the hive afforded an appropriate object lesson. Bolshevism, under such circumstances, would gain no ground and ca'-canny would become obsolete. In declaring the show open, Sir John wished it every success.

The Chairman then made a presentation to Mr. G. W. Judge, the hon. secretary of the Association, in recognition of his valuable work for some time past. They had purchased a gold watch for Mr. Judge, and he would also receive a gift in the form of Treasury notes. The Chairman added that Mr. Judge's re-stocking scheme for the county had been copied by the British Bee-keepers' Association and by the Food Production Department with certain modifications. It would, therefore, be seen how valuable had been the work of the Association's hon. secretary. (Applause.)

Sir John Cockburn congratulated Mr. Judge on the success which has attended his re-stocking scheme, and said the gold watch would be a pleasing souvenir of his connection with and work for the Kent Bee-keepers' Association.

Mr. Judge, in expressing his thanks, said that, as the members of the Association knew, Kent was one of the most backward counties in regard to bee-keeping a few years ago, and it fell to his lot to try and put it on a better basis. The membership was now practically 1,000. (Applause.) He did not think there was any Association of its kind in England that could show such rapid advance. (Renewed applause.) Mr. Judge then expressed sincere thanks to the subscribers for the presentation, and especially the Chairman for his work in connection with it.

On the motion of Mr. A. Robinson, seconded by Mr. Harris, a hearty vote of thanks was accorded Sir John Cockburn for his presence, and to Mr. J. Herrod-Hempsall, the judge, this motion being proposed by Mr. H. Watts, and seconded by Mr. Judge. The Chairman was also thanked for presiding.

It was the first county show of the kind held in Maidstone, and a great success. There were in all 102 individual entries, while as many as 228 jars of honey were staged. Considering the season it was an extremely good show of honey, the competition in most classes, and especially in those for run honey, being very keen. The display of home-made appliances was an excellent one, the exhibits being exceedingly good both as to workmanship and ingenuity. Here again the competition was keen.

To the uninitiated an observation hive of bees proved a very attractive exhibit, but equal interest was evoked by Mr. H. Watts' demonstration in driving a skep of bees, and Mr. W. H. J. Prior's in hiving a swarm.

THE PRIZE DISTRIBUTION.

The prizes (a list of which is appended) were distributed in the evening by Mr. John Arkcoll, J.P. (who had previously assumed the rôle of amateur auctioneer and sold a number of glasses of honey in the gift classes), and in the course of a few remarks he expressed the hope that the exhibition would be followed by many others in the county, and that the membership of the Association would be greatly increased. Mr. Arkcoll was accorded a hearty vote of thanks.

Mr. A. H. Silcock, of Maidstone, the hard working hon. secretary of the show, deserved special praise for the excellence of his arrangements.

Six sections, open to Kent.—1st prize, Mr. A. Boulden, Boughton Monchelsea; 2nd prize, Mr. H. Dobell, Bumper's Hall, Marden.

Six jars extracted honey (light), open to Kent, 1st prize, Mr. H. Watts, Holmleigh, Bearsted; 2nd prize, Mr. H. E. C. Carter, 73, St. John's Park, Blackheath; 3rd prize, Mr. W. J. Porter, 2, Sussex Road, Dartford; v.h.c., Mr. J. W. Price, The Outlook, Barming Heath; h.c., Mr. J. C. Roberts, 5, Tonbridge Road, Maidstone.

Six jars extracted honey (dark), open to Kent.—1st, Mr. A. T. Hills, 36, London Road, Maidstone; 2nd, Mr. H. E. C. Carter, 73, St. John's Park, Blackheath; 3rd, Mr. W. Carter, 2, York Road, Rochester;

v.h.c., Mr. H. Dobell, Bumper's Hall, Marden; h.c., Mr. H. Davis, Percy Villa, Station Road, Crayford.

Three jars extracted honey (granulated), open to Kent.—1st, Mr. H. E. C. Carter, 73, St. John's Park, Blackheath; 2nd, Mr. H. Davis, Percy Villa, Station Road, Crayford; 3rd, Mr. J. H. Nelson, Foxpitt, West Farleigh.

Two shallow frames, open to Kent.—1st, Mr. W. Carter, 2, York Road, Rochester; 2nd, Mr. T. Merchant-Taylor, Beach Cottage, Newenden.

Home-made hive, open to Kent.—1st, Mr. George M. Clark, 22, Muir Road, Maidstone.

Home-made appliance, open to Kent.—1st, Mr. R. H. Miller, Claremont, Chestnut Avenue, Walderslade, Chatham; 2nd, Mr. T. G. Richards, Loose; 3rd, Mr. H. Davis, Percy Villa, Station Road, Crayford.

Gift class, one section, open to Kent.—1st, Mr. H. Dobell, Bumper's Hall, Marden.

Gift class, one jar, open to Kent.—1st, Mr. H. Watts, Holmleigh, Bearsted; 2nd, Miss Heale, Hillside, Barming; 3rd, Mr. A. Boulden, Church Street, Boughton Monchelsea; v.h.c., Mr. H. Dobell, Bumper's Hall, Marden; h.c., Mr. J. C. Roberts, 5, Tonbridge Road, Maidstone.

Three sections, open to Midland Division.—1st, Mr. H. Dobell, Bumper's Hall, Marden; 2nd, Mr. H. T. Parkes, Sandling; 3rd, Miss K. Goodwin, Roseholme, Maidstone; v.h.c., Mr. Louis Curtis, Platt Common; h.c., Mr. A. H. Silcock, 11, Albion Place, Maidstone.

Three jars extracted honey (light), open to Midland Division.—1st, Miss Heale, Hillside, Barming; 2nd, Mr. T. Merchant-Taylor, Beach Cottage, Newenden; 3rd, Mr. J. C. Roberts, 5, Tonbridge Road, Maidstone; v.h.c., Mr. J. H. Nelson, Foxpitt, West Farleigh.

Three jars extracted honey (dark), open to Midland Division.—1st, Mr. A. T. Hills, 36, London Road, Maidstone; 2nd, Miss Heale, Hillside, Barming; 3rd, Mr. H. Dobell, Bumper's Hall, Marden.

Beeswax (open to Midland Division).—1st, Mr. J. W. Price, The Outlook, Barming Heath; 2nd, Mr. A. T. Hills, 36, London Road, Maidstone; 3rd, Mr. J. H. Nelson, Foxpitt, West Farleigh; v.h.c., Mr. H. Dobell, Bumper's Hall, Marden; h.c., Mr. A. Boulden, Church Street, Boughton Monchelsea.

Cake sweetened with honey, open to Midland Division; open to members' wives and daughters.—1st, Mrs. J. W. Price, The Outlook, Barming Heath; 2nd, Mrs. A. H. Silcock, 11, Albion Place, Maidstone; 3rd, Mrs. J. C. Roberts, 5, Tonbridge Road, Maidstone.

Bee Candy (open to Midland Division).—1st, Mr. J. W. Price, The Outlook, Barming Heath.

Three jars extracted honey (open to Midland Division), open to members who have not won a prize at any previous show.—1st, Mr. Louis Curtis, Platt Common; 2nd, Mr. A. T. Hills, 36, London Road, Maidstone; 3rd, Mr. A. H. Silcock, 11, Albion Place, Maidstone; v.h.c., Mr. J. W. Price, The Outlook, Barming Heath; h.c., Mr. J. H. Nelson, Foxpitt, West Farleigh. The honey shown in this class by Mr. Curtis was stated by the judge to be the best in the show.

Winner of the Bryden Challenge Cup.—Mr. H. E. C. Carter, 73, St. John's Park, Blackheath, who won the highest number of points in the classes open to Kent.

Winner of the Midland Division Challenge.—Mr. J. W. Price, The Outlook, Barming Heath, who won the highest number of points in the classes open to the Midland Division.

Warwickshire Bee-keepers' Association.

ANNUAL SHOW.

The annual show of the Warwickshire Bee-keepers Association was held, in conjunction with the Warwickshire Agricultural Societies' Show, at Leamington on September 3rd and 4th. The show of honey was exceedingly good, both in quality and quantity, especially the comb honey of Mr. Cleaver. The arrangements were admirably carried out by the secretary, Mr. J. Ingerthorp, and it was also a great pleasure to the bee-keepers present to have the late secretary, Mr. J. Noble Bower, with them again, looking as hale and hearty as ever.

Demonstrations and lectures were given in the bee-tent each day, and the attendance showed that bee-keeping has lost none of its interest to Warwickshire people.

The prizes were distributed by Lord Leigh, of Stonleigh Abbey, at the close of the show.

Class 1.—No exhibit.

Class 2.—1, T. A. Denison, Napton, Rugby.

Class 3.—1, Henry Cleaver, Leamington; 2, W. H. Allard, Stockton, Rugby.

Class 4.—1, Henry Cleaver, Leamington; 2, T. A. Denison, Napton, Rugby; 3, Albert E. Warren, Simpson, Bletchley.

Class 5.—1, A. Jackson, Metford, Norfolk; 2, Henry Cleaver, Leamington; 3, T. A. Denison, Napton, Rugby.

Class 6.—1, T. A. Denison, Napton, Rugby.

Class 7.—1, T. A. Denison, Napton, Rugby; 2, W. H. Allard, Stockton, Rugby; 3, Henry Cleaver, Leamington.

Class 8.—1, E. C. R. Holloway, Burwell, Cambridge; 2, T. A. Denison, Napton, Rugby; 3, Albert E. Warren, Simpson, Bletchley.

Class 9.—1, T. A. Denison, Napton, Rugby; 2, Henry Cleaver, Leamington; 3, John Corbett, Knowle.

Class 10.—1, T. A. Denison, Napton, Rugby; 2, F. Steele, Dunchurch; 3, Miss E. Poole, Eastern Green, Coventry.

Class 11.—No awards.

Class 12.—1, T. A. Denison, Napton, Rugby; 2, Henry Cleaver, Leamington.

Class 13.—1, Henry Cleaver, Leamington; 2, T. A. Denison, Napton, Rugby.

Class 14.—1, T. A. Denison, Napton, Rugby; 2, Miss Edith Poole, Napton, Rugby; 3, H. Cleaver, Leamington.

—*Communicated.*

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Fungus Diseases of Bees.

[9997] Now that so many stocks have been imported from Holland, it may be well for bee-keepers (especially those situated near the restocking apiaries to which the Dutch skeps were sent) to keep a look-out for the disease known on the Continent as "stone-brood."

This disease is so named from its characteristic symptom. The affected brood (mostly drone pupæ) becomes hard and dry, and later on is covered with a growth of mould. Adult bees are also often attacked, sometimes in large numbers, resulting in "dwindling," which might easily be mistaken for "Isle of Wight" disease. This is evidently the disease referred to in Mr. Lowe's letter from Belgium (pp. 335-336). So far, I believe, it is unknown in Great Britain; perhaps the editor can tell us if he has ever met with a case?

The method of spread of the disease is not understood. Though it does not appear to cause widespread epidemics, there is no cure for bad cases; and it would be advisable not to allow it to gain a footing in this country. The case mentioned in the "B.B.J.," 1918, p. 270 (halfway down first column) sounds most suspiciously like "stone-brood."—ANNIE D. BETTS, Camberley, Surrey.

[We have not met with a case, but symptoms described by several correspondents do sound very like those described above.—EDS.]

A Bee-keeper's Thanks.

[9998] I should like to thank you, and through you, those kind friends who so readily responded to my appeal for assistance, through the columns of the "B.B.J." Please accept my very best thanks.

My loss was hard and very severe, and, coming as it did so close upon my discharge from the R.A.F. after two years' service, was particularly so. However, I have made a start in my business, though not as I could have done, and the few pounds sent have helped me considerably.

I have also started my apiary again; one kind friend made me a very appreciable present of two new W.B.C. hives, and another some section racks. I have also secured three stocks of bees, each headed by 1919 queens, are very strong, and have ample stores. So I am full of hope for 1920, when I hope to have things much straighter and to hear once again the merry hum of my friends, the bees.—R. LITMAN.

Frames.

[9999] I am glad to see that someone still approves of sticking to the small frame, even if that person is yourself, Mr. Editor.

I want here to repeat my statement that I had and have, no wish to persuade anyone to give up the standard frame. I write for those who are dissatisfied with it, and wish to change.

I know quite well that most bee-keepers are conservative, and will probably endorse your first paragraph in B.B.J., September 11, where you particularly say that the standard has done for a long time and will continue to do, *i.e.*, what was good enough for the last generation is good enough for all time.

I have had so many letters on this subject since you printed that letter on "Frames," with my address, that I ask you, please, to find room soon for this, as I cannot very well reply to all just now.

I should advise small bee-keepers, who are likely to remain small, to stick to what they have, for, as you so aptly remark, the expense is too great. To the others, who are really interested, I should like to say, "If you are seriously interested in

this plan of large frames, and are prepared to go to some expense, please write to me at address below, and we will club together and see what can be done." I do not wish to put myself forward at all, and if anyone would like to take my place and be written to, I should be quite willing to take second place.

My idea is this. If all who really wish to try a large frame, and are willing to go to some trouble and expense (and nothing can be done without these two things), will first of all get into correspondence, and decide what to do, and then find some enterprising firm that will undertake to make a quantity of the goods which will be wanted, I feel sure it can be done.

Re distance keepers. I suggest some such thing as is illustrated on page 208 (left top), Roots' A, B, C. [1910 edition, "Metal Spaced Hoffman Frames," page 310, 1917 edition.—EDS.].

I have just been extracting from the 16-in. shallows, and they do splendidly.

Mr. Editor, you are right that two widths of frame in an apiary is impracticable permanently, but for a time it can be done, as standards can be used over 16 x 10 and gradually eliminated.

You are quite wrong in not attaching the least importance to the theory (which is a fact) that the space between top and bottom sets of combs will hinder either queen or bees. It will hinder the queen. Otherwise, how is it that at the close of the season the queen will only lay in one of these boxes—usually the top one?

An 11-in. frame is too deep, is more apt to twist, more apt to sag the top bar, more apt to touch bottom of next comb, and above all more apt to crush bees on removal.—R. B. MANLEY, Brightwell, Wallingford.

[With reference to the third paragraph of the above letter, we once read of a judge saying, that in his experience he always found when anything was "practically" so, it was not so at all. Will Mr. Manley read that paragraph again, and tell us where we said, or suggested, "that the standard had done for a long time and *will continue to do*," etc.—the italics are ours. What we said was the "British standard frame has. . . . justified its dimensions as being the best *up to the present*." The last four words, however, were not in italics, so probably escaped Mr. Manley's notice. We are not against any change if it is for the better, but we hold that no change in the standard should be made until it has been proved that more than a bare majority of bee-keepers desire it.

May we counter Mr. Manley's query in the last paragraph but one, in the Irishman's fashion, by asking another, "How is it that the brood nest is contracted a t all at the close of the season, even if only one set of combs are used? Also, why is a frame 14 in. wide and 11 in. or 11½ in. deep more likely to have the faults enumerated in the last paragraph than one 16 in. wide and 10 in. deep?" Mr. Charlton advocated a frame 14 x 11½; if 11 in. is too deep, this would, according to Mr. Manley, be worse, yet it only contains 1 sq. in. more than a 16 in. x 10 in., and if the latter size was adopted not only the frames now in use, but brood, and shallow frame boxes would have to be renewed.—EDS.]

Size of Frames.

[10000] Relative to the correspondence which has appeared in your columns on the question of the sizes of frames, it might possibly be of interest to some of your readers to know what sizes are most commonly used in France.

My experience has been chiefly amongst bee-keepers in the "Regions Liberees," but in the course of my work I have also met bee-keepers from various other parts of France.

The three most commonly used sizes are:—

Dadant Blatt, 42 cms. length × 27 cms. depth, *inside* measurement.

Layens, 31 cms. length × 37 cms. depth, *inside* measurement.

Voirnot, 33 cms. length × 33 cms. depth, *inside* measurement.

and of the others I might mention two—

Sagot, 30 cms. length × 30 cms. depth, *inside* measurement.

Dadant-Union, 42 cms. length × 30 cms. depth, *inside* measurement.

Thirty centimetres are slightly under 12 inches, so that you will be able to judge of the comparison between their various sizes and our English standard. One result of having the frames so deep is that they very rarely use excluders. As regards supering arrangements, a shallow frame of half the depth of the brood frame, or in the case of the "Voirnot" a third, is used, except in the case of the Layens' hive, in which there are twenty frames in the brood chamber, so that the bees store their surplus honey at the side of the brood nest rather than above.

I received a day or two ago the catalogue of two Swedish firms, from which it would appear that there are the following sizes of frames in use there:—

	Depth. mm.	Length. mm.
Lagnormal'	222	× 366
Wieslander	278	× 366
Svearan or Koadrat...	300	× 300

E. G. BURTT.

More Bee-keeping Troubles.

[10001] Here is still another bee-keeper with trouble to relate. It shows at least that it takes a lot to extinguish the enthusiasm of a bee-keeper. I started in 1917 with two five-frame stocks value £2 10s. In a fortnight they were all crawling, and my bee dreams for the year were over. I re-started in June, 1918, with three lots which I bought (cost £7 10s.), and one stock swarmed. They used all their stores brood rearing, and in August, which was very wet, I found them practically foodless. I fed them with Pascall's candy (cost over £3), and fixed them up snugly for winter. One weaker lot died in October of "Isle of Wight" disease. The three stocks left were very strong, with lots of sealed stores. In February I found two (the stock and swarm) in a terrible state with disease. There were still some bees alive, which I sulphured. That left me with one healthy stock, and twenty combs half full of stores, which I did not dare to use. I had ordered an Italian queen in January for this hive, so had good hopes for it. In April I bought another stock for £4 and it thrived well. I did my best to keep it from swarming, as the family began to think that I was only keeping bees as pets, with no thought of honey. However, in July, it swarmed in spite of all. I made a nucleus of three frames of comb and the offending queen cell, and returned the swarm; but on examining the parent hive later I found them queenless. I gave them a ripe queen cell, and said good-bye to any honey from that lot for another year. Meanwhile my other hive still contained a poor queen, and I waited patiently for the Italian one. It never came, and in August I cancelled the order, and bought one elsewhere. I only got one section from this hive! I am now feeding all three lots for winter, thankful to be free from disease at last, and full of hope for next year. One would need to be enthusiastic to keep going. What price that section? I think I shall put it in a glass case!—D. B.

Bee-keeping and "Isle of Wight" Disease.

[10002] After 30 years of bee-keeping I almost decided to give it up, after losing 64 stocks with the "Isle of Wight" disease, leaving me only four stocks of old English bees. I tried almost everything recommended, but "Flavine" was the best so-called cure. This year I allowed my two best stocks to gather supplies, from the other two I have been making new stock; my count is now 12. From the two stock I took 180 lbs. of honey—72 shallow bars.

I bought a hive of bees March 31. This year I have made five new stocks from this, as well as selling two queens. This bit of luck has revived my lost spirit. There is another thing I should like to mention. A friend of mine who had lost all his bees through the disease left two hives with the frames of comb and dead bees in. A stray swarm went in last summer, the bees wintered well and are alive to-day and healthy. He has taken 120 lbs. from this hive.

Take another case. I had this year some empty hives with all the old combs in. A stray swarm went in, and I have got 16 combs of honey from it, also a big swarm as well. What about the "Isle of Wight" disease in these two cases? Can anyone tell me why the bees did not take the disease?—W. MOUNTING, Southwell.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

September 20 to 26, Victory Grocers' Exhibition, Royal Agricultural Hall, London.—Prizes for Bee-keepers. All Bee-keepers who desire a Schedule of Competitions sent them please send name and address, referring to this Journal, to H. S. Rogers, 31, Queen Victoria Street, E.C.2.

October 21 to 24, Dairy Show, Royal Agricultural Hall, London.—Particulars of the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1. **Entries closed.**

Special Prepaid Advertisements.
One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as "***Business***" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* **3s.** *per* ½*in., or* **5s.** *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

"BEE JOURNAL" wanted dated September 5, 1918.—STECKERT & CO., 2, Star Yard, Carey Street, London, W.C.2. u.60

PURE English Honey in 28-lb. tins and in Mono pots of not less than six dozen (nominal lb.). Offers invited.—Box C., B.B.J. Office, 23, Bedford Street, Strand, W.C.2. u.62

PURE Cambridge Honey (guaranteed) in 28-lb. tins, 58s. 6d., tin and case free; sample 4d.—YOUNG, 42, James Street, Cambridge. ru.65

HYBRID BEES for Sale, 5-frame stock, full of bees, brood and comb with stores, make keeper over winter, £2 5s.; box 6s., or returned carriage paid; also three spare Hybrid Queens, 15s. 6d., or 6s. each; no disease.—HAY, Forest Lodge, Woodlands, Consett, Durham. u.61

WANTED, strong stock Bees in skep, in good condition, healthy, and plenty winter stores. State price and particulars.—LANGLEY, King's Arms Hotel, Hemel Hempstead, Herts. u.63

WALLFLOWERS, Golden King, Ellen Willmott, Harbinger, mixed, strong transplanted plants; plant now to secure early bee food; 50, 2s. 9d., carriage paid.—W. CLEMENT, Codmore Hill, Pulborough, Sussex. u.64

FERTILE Italian hybrid, 1919, Queen, first cross, 6s. Enclose stamp.—COLLINS, Streetly Lane, Sutton Coldfield. u.66

SURPLUS American Golden Italian 1919 Queen, 10s. 6d.—F. W. HARPER, 39, St. James' Road, Watford. u.67

3½ CWT. pure Cambridgeshire Light Honey, good quality, for Sale, in 56-lb. tins. Offers wanted. 1½ cwt. of dark; sample 4d.—Tithe House, Wilburton, Ely. u.68

SURPLUS Stocks of Bees for Sale on 10 and 20 frames, also some Skeps with all stores, cheap. —CANDLER, Wimbish, Essex. u.69

EMPTY COMBS wanted from healthy hives.—Particulars and price to HOUSTON, Ellen Villa, Sidcup. u.70

1 CWT. Cambridgeshire Honey, £10. Stamps for sample.—R. WHITTING, Manea, March. u.71

WANTED, Cheshire's "Bees and Bee-keeping: Practical and Scientific."—HODSON, Harley Lodge, Enfield. u.72

PURE Thanet Honey in 28-lb. tins, 63s. per tin, carriage paid.—WARREN, Minster, Thanet. u.73

BEST OFFER wanted for 13 Bee Hives (11 W.B.C.), 10 Queen Excluders, 9 Crate Shallow Frames, 5 Crate Sections, 1 Swarm Catcher (new), 1 Honey Ripener (five gallons), and numerous spare parts; owner leaving the country.—Write, E. C. YOUNG, "The Roses," Halls Green, Roydon, near Ware. u.77

FOR SALE, 10 Stocks of Bees on 8 combs, Hybrid Italians, £2 10s. each, buyer to find crates.—BARNES, Bees, Burwell, Cambs. u.78

HONEY.—Pure Cambridgeshire, 1919, crop, tins and screw-top jars. What offers?—Box 45, BRITISH BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. u.38

RETIRING from the show bench.—Will sell cheap my well-known Trophy Stands, Observatory Hives, Nucleus Hives, Shallow and Brood Boxes, Excluders.—Particulars and photos, DELL, Leigh, Lancs. ru.2

SIX-FRAME STOCK, Hybrid Italians, 70s.; box, returnable, 10s. English Honey wanted.—LEE, "Little Bowden Apiary," Burgess Hill, Sussex. r.u.13

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

1919 GUARANTEED imported fertile Golden Italian Queens, big supplies during August and September, 12s. each; specially selected, 15s.—GOODARE, New Cross, Wednesfield.

RE-QUEEN FOR 1920.—Imported Italian Queens, 12s. 6d.; Hybrid Italian Queens, 9s. 6d.; English Queens, 7s. 6d. Safe delivery guaranteed. Catalogue free.—C. T. OVERTON & SONS, Crawley. u.58

HEALTHY Driven Bees, with Queen, 9s. 6d. per lot, carriage paid; cash with order; boxes returnable; immediate despatch.—PULLEN, Ramsbury, Hungerford. u.59

DUTCH HYBRIDS, 4-frame, plenty stores, 35s. each; new Hives, 25s. and 30s. each, painted. —GREEN, Bee-keeper, Laindon. u.76

"ISLE OF WIGHT" DISEASE CURE.—A sure remedy for disease, 3s. 6d. per bottle, with full instructions. Latest testimonials sent on receipt of stamp.—CHITTY, "Burleigh," Cassington, Oxon. u.74

THAT FLAVINE TREATMENT.—Dissolve one package Flavine in each quart of syrup when using that 10 lb. Government sugar allowance. Six packages Flavine, circular, testimonials, etc., 6d., post paid.—SMITH, 30, Maid's Causeway, Cambridge. u.75

Books for Bee-keepers
NOW IN STOCK.

		Postage
A.B.C. and X.Y.Z. of Bee Culture (ROOTS)	13/-	... 9d.
A Modern Bee Farm (S. SIMMINS)	7/6	... 6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	... 1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	... 1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	... 3d.
Dissectible Model of Queen Bee	4/6	... 3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	... 1d.
Fifty Years Among the Bees (DR. MILLER)	5/-	... 5d.
Honey and Health (A. HOPE) ...	-/6	... 1d.
Honey and Its Uses (REV. G. BANCKS)	-/1	... 1d.
Honey Vinegar (REV. G. BANCKS)	-/2	... 1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	... 6d.
Langstroth's The Hive and The Honey Bee	7/6	... 6d.
Maeterlinck's Life of the Bee	3/6	... 6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	... 2d.
Productive Bee-Keeping (PELLET)	7/6	... 6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.) ...	2/-	... 3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	... 2d.
Scientific Queen Rearing (G. M. DOOLITTLE)	3/6	... 4d.
Snelgrove's Method of Re-Queening	-/6	... 1d.
The "Townsend" Bee Book ...	2/6	... 2d.
WAX CRAFT (T. W. COWAN) ...	2/-	... 2½d.
Winning a Living on Four Acres (F. A. MORTON)	-/7½	... 1½d.
Wilke's Book on Swarming ...	1/-	... 1½d.

MISCELLANEOUS.

The Lore of the Honey Bee. By TICKNER EDWARDES. **2/-**, postage **2d.**

The Humble Bee. By F. W. L. SLADEN. **12/6**, postage **6d.**

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . In a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

YOU WANT NOW
EXTRACTORS, FEEDERS, HONEY TINS AND PACKAGES,
and our new perfect Wintering Board.
MEADOWS,
SYSTON, LEICESTER.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

Italian Queens direct from Italy.

Address :—

E. Penna, Bologna, Italy.

All the queens I can rear have been booked up to the end of the season. Within December, the Price List for 1920 will be sent on application.

"I wish to inform the readers of THE BRITISH BEE JOURNAL that I could not supply any queens to the British Board of Agriculture for the re-stocking scheme. The claims and remarks which have appeared in THE BRITISH BEE JOURNAL have no reference to me."

ITALIAN QUEENS

Direct from Italy.

Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.
For 1 Fertile Queen: Aug., Sept., 9/-

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

A B C AND X Y Z OF BEE CULTURE.

By A. I. and E. R. ROOT.

We have just received a number of the 1917 Edition. All Bee-keepers should possess a copy of this comprehensive work.

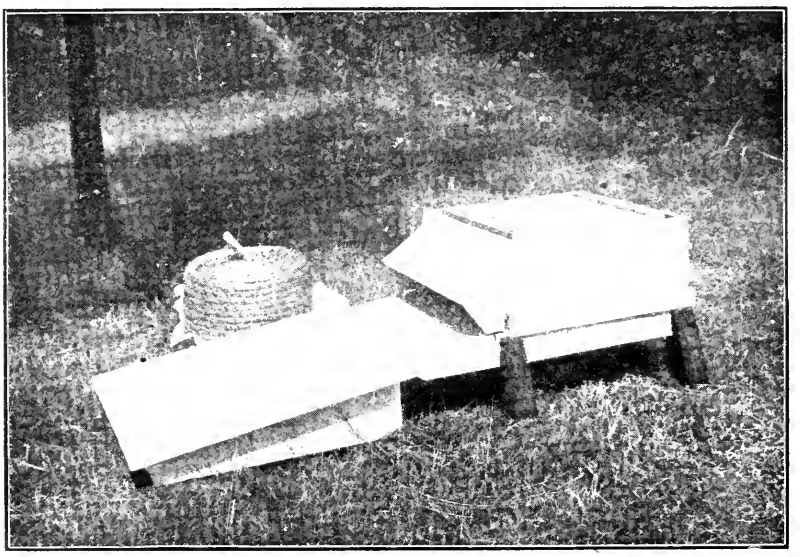
Price, post free, **13s. 9d.**,
from the BRITISH BEE JOURNAL Office, 23, Bedford Street, W.C.2.
(Sold by other houses at 15s. 9d.)

Winter your bees in good sound hives and so minimise the risk of losing them.

The Stevenson 200-lb. Skyscraper Hive (W.B.C. Type) will not only do this for you, but will also enable you to keep the bees next year on the most modern and scientific lines.

It has many advantages and does away with the inconveniences experienced in using ordinary hives, thus saving time and labour and helping you to get the best possible results.

The materials and workmanship are of the best, and delivery can at present be given within a week of order. Order now so as to winter your bees in this hive and ensure a better harvest next year.



The roof is made the same height and at the same angle as the alighting board. When placed in front of hive, as shown above, it is ready for hiving a swarm. No blocks of wood, bricks, sheets, or boards are required.

Send for full particulars and price to:—

The Croydon Aviation & Manufacturing Co.

LIMITED

45, Oxford St., HIGH WYCOMBE.

Honey Competition.

Grocers' Exhibition, 1919.

The quantity of honey shown at this exhibition, at which we had the pleasure of judging, is not large compared with pre-war shows, but there is more than we expected to see. The honey is all of good quality, and the competition very keen. Sections is a very small class, but this was to be expected, as the past season has not been favourable for section production. The light-extracted honey is the largest class and some excellent honey is staged. Very few mistakes have been made by exhibitors entering honey in the wrong classes. One or two are too dark or too light for their respective classes. One exhibit in the light honey class should have been in the granulated class, and three exhibits contained heather. In the wax class were two exhibits. A better sample than that awarded first prize could not be desired. It is also exceedingly well got up. We suggest to exhibitors that they read the schedule and rules more carefully. We are always sorry to see only one exhibit ruled out, because it is entered in a wrong class. Under those conditions the time and trouble and expense of sending are wasted so far as prize-winning is concerned.

The following is the list of awards:—

Class 67.—Bee appliances. No entry.

Class 68.—Honey trophy: 1st, G. Bryden, Hamilton House, Star Hill, Rochester.

Class 69.—Twelve one-pound sections, comb honey. Five entries.—1st, G. J. Flashman, Bucketts Land Cottage, Holms Hill, Shenley; 2nd, G. Bryden; 3rd, W. J. Goodrich, Oxford Street Dairy, Gloucester; h.c., E. G. Waldock, "Upwey," The Mount, Guildford; h.c., A. E. Warren, Old Lane Apiary, Simpson, Bletchley.

Class 70.—Twelve jars light extracted honey. 24 entries.—1st, G. Bryden; 2nd, G. J. Flashman; 3rd, Mrs. Anderson, High Hurstwood, Uckfield; 4th, Mrs. L. Morgan, Underwood, Portskewett; 5th, Rev. L. Bouch, Uxbridge; h.c., W. J. Goodrich; h.c., E. C. R. Holloway, Burwell, Cambs.; c., J. J. Abell, Verdon, Desford; c., D. Bateman, Eglwyswry, S.O., Pem.; c., A. Whitworth, Errington Road, Colchester.

Class 71.—Twelve jars, medium extracted honey. 17 entries.—1st, G. Bryden; 2nd, G. J. Flashman; 3rd, H. E. C. Carter, St. John's Park, Blackheath; 4th, A. Whitworth; h.c., C. H. Rose, 159, Blagdon Road, New Malden; h.c., Rev. L. Bouch; c., Mrs. F. Harris, High Ferry, Sibsey, Boston.

Class 72.—Twelve jars, granulated honey. 7 entries.—1st, G. J. Flashman; 2nd, G. Bryden; 3rd, M. G. Goodrich; 4th, M. G. Candler, Thaxtead Road, Wimbish, Essex; h.c., G. Thomas, Burwell, Cambs.; h.c., A. E Warren.

Class 73.—Beeswax for retail trade. 4 entries.—1st, Mrs. F. Harris.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23 Bedford Street, Strand, London, W.C.2, on Thursday, September 18, 1919.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. G. S. Faunch, T. Bevan, A. G. Pugh, G. Bryden, J. Smallwood, G. J. Flashman, W. H. Simms, J. B. Lamb, F. W. Walls, G. W. Judge. Association representatives: J. Rae (Essex), Rev. E. J. Bartleet and G. Thomas (Gloucestershire), P. E. Wagstaff (Hertfordshire), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Messrs. T. W. Cowan, C. D. Burnet, D. E. Bonvonnie, F. W. Harper, C. L. M. Eales and Major F. Sitwell.

The minutes of Council meeting held on July 17 were read and confirmed.

The following new members were elected:—Mrs. H. E. Salmon, Mr. J. Moreby, Miss M. Byatt, Lieut.-Col. C. Weaver Price, Messrs. A. B. Purton, F. Allen, L. McD. Thake, T. A. Denison, E. Bliss, J. I. Lonnon, C. Waghorn, H. Trewin, T. Green, E. R. Burdon and Adminson, Ltd.

Reports on Preliminary Examinations held in Northumberland, Kent, Egypt, Warwickshire, Bucks, Wiltshire, Essex, Somerset, Aberdeenshire and Cheshire were presented, and it was agreed to grant certificates to Mrs. A. Cooke, Mrs. E. A. Prior, Misses A. Simpson, N. Weston, M. Mavory-Younghusband, B. Brown, M. A. Turrell, E. W. Jameson, G. M. Hay, A. D. Betts, A. Aust, C. Skinner, E. Dovey, H. Williams, M. Smith, E. Houston, M. Long, I. Berridge, M. Heale, Messrs. A. E. Parker, J. Anderson, P. Burr, C. E. Hudson, F. M. Claridge, S. T. Whitehead, C. W. Duton, C. B. Bowler, T. W. Cockerham, J. Bartlett, E. V. Barwood Hassan Helbawy, H. Wainwright,

S. A. Stigant, R. Robson, J. W. A. Jackson, C. H. Brown, F. Ledger, W. J. Hawkins, E. D. Green, W. F. Cunningham, W. E. Clifford, J. Acton, C. Burgess, J. Clarke, B. O. Rayson, A. D. Tobler, Rev. J. Butler, Rev. W. Murdoch, Rev. A. G. Callo.

The report on lecture test for Final Examination was presented by the Chairman, and it was agreed to grant the Final Certificate to the Rev. E. G. Bartlett

Arrangements were made for a conversazione to be held on Thursday in Dairy Show week, October 23, at the Central Hall, Westminster; to commence at 4 p.m.; tea at 5 p.m.; discussions to be opened by Mr. G. Thomas on "Difficulties in Queen Rearing," Mr. G. Bryden "Wintering Small Stocks and Nuclei Indoors," W. Herrod-Hempsall "Best Methods of Increasing." The paper to be limited to ten minutes, and discussion to fifty minutes.

Arrangements were made for the Intermediate Examination to take place on November 28 and 29, 1919.

The Carmarthenshire Association applied for a Preliminary Examination, and the same was granted.

A letter was read from Société d'Agriculture de la Région del Est, and the Secretary was instructed to deal with same.

Next meeting of Council, October 16, 1919, at 23, Bedford Street, Strand, W.C.2.

Jottings from Huntingdonshire

There are still acres of purple clover in bloom, so honey gathering is still going on and the balmy weather has put the bees in a happy mood. One feels not a little sorry for those bee-keepers whose lot is cast in a colder clime or in a district where the honey flow has long since ceased. As for pollen, there is plenty about. The hollyhocks yield their share, with the Shasta daisies, to say nothing of malope grandiflora. In fact, one has only to step inside a cottage garden to find our little friends busy gathering their pollenarious food.

The other day I spied a small boy high up in a tree. I asked what he was doing up there? "Looking for the sugar, sir." "Sugar?" "Yes, sir, you and another gentleman have been writing about it in THE BEE JOURNAL." Mr. Kettle and I will have to look out, in case we get some broken limbs laid to our charge. I am inclined to smile when I hear people say that this sugary exudence is objectionable to the palate. Bees know what they are about. Is there any tree that does not give forth nectar either through its flowers or its pores? I think not. It may not all be of a quality to attract bees, but some undoubtedly does, and even the coniferous species are not despised. I have a section three parts filled with this substance, and it's a delicacy. Those familiar with Californian honey would recognise the flavour at once.

Speaking of the flavour of the honey; how good it is this year! Certainly what has been lacking in quantity is made up in quality. Everyone with whom I have spoken on the subject have remarked on its delightful and highly pleasing taste.

The daily papers are still talking of "the profiteering in honey." Evidently these senseless articles are written by young lads just turned out from school, who, in their youthful ignorance, seem to imagine that a box is filled with sections turned upside down, an entrance hole cut, and a weather-proof roof made, and then all goes well from Easter to Michaelmas. How is it that people who swallow these articles do not realise that the purchasing power of a sovereign is now about 8s. 2d.? Therefore sections sold at 1s. 3d. in pre-war days are cheaper to-day at 2s. 6d. What is always so topsy-turvy to my mind is that run honey should be sold at a cheaper rate than that in sections. It seems equivalent to selling a dozen day-old chicks cheaper than a sitting of eggs.

I have been busy extracting honey this last week, sheltering myself behind two doors, but oh, the wasps! Like Bishop Hatto's rats they seemed to come in everywhere. I stuffed up all the cracks around the doors with paper, they poured in through the keyholes. I stopped up those too, and for half an hour peace. At the end of that time, however, they had eaten holes through the paper and came buzzing round the extractor in dozens. What ungrateful insects wasps are! I left them a dozen or more of the juiciest plums on the trees; one would have thought they would have left my honey alone after that. Not they. And what a lot of drone wasps there are about. They are not such poltroons as their cousins of the beehive, and they kill flies; but withal they, their sisters and mother should be incinerated, or their nests turned to a lethal chamber with cyanide of potassium.

One sometimes gets asked, what can best be done with honey extracted from the brood chamber. No one, as the editor has recently reminded us, will risk his honey or reputation by mixing honey from broodcombs with that from the supers. Why not make metheglin, or mead, or, better still, the old-fashioned English Bragget. The following is a good recipe. Honey 7 lbs., boiling water 2 gallons, well mix. In a pint of water boil half a lemon,

a pinch of mace, and ¼-oz. of ginger, half a dozen cloves, and a small quantity of rosemary; strain and add to the hot mixture; stir well together and set aside to cool. Mix a small piece of yeast (size of a nut) with a pint of the liquor, pour into the rest and leave it till fomentation has taken place. After, it should be bottled or casked up for at least six months. When used, barley water may be added; the result being a less intoxicating drink than ginger ale.—E. F. Hemming.

The Bee Industry.

THE OFFICIAL RESTOCKING SCHEME.

Owing to the "Isle of Wight" disease the stocks of bees in this country have been depleted to an alarming extent. The production of honey has decreased seriously, and the fruit crops have suffered through the non-fertilisation of blossom owing to the lack of bees.

With a view to remedying this state of affairs, the Board of Agriculture in 1918 engaged the services of a Bee Expert, and a scheme to restock the country with bees was initiated. An investigation of the apiaries still in existence was first carried out, every part of the country being visited by the Board's expert. It was found that the total number of stocks remaining in England and Wales was only 32,500.

Simultaneously with these inquiries investigations were made into the results which had attended local experiments in Kent and elsewhere to test the resistance to "Isle of Wight" disease of bees of hybrid origin. It appeared from the evidence that hybrid Dutch and Italian bees possess a high measure of resistance to "Isle of Wight" disease. The Board therefore developed a scheme for the introduction of Dutch bees for stocks and Italian queens for breeding.

In February last the Board's expert proceeded to Holland to purchase Dutch colonies in skeps; and he succeeded in securing 268 skeps, which were brought over in March without the loss of a single colony. Seven hundred Italian queens, purchased from one of the best breeders in Italy, were brought to England by post. To assist in the distribution of the stocks and queens, Bee Committees were formed under the Horticultural Sub-Committees in 40 counties of England and six in Wales, the bee-keeping interest being largely represented on these Committees.

The Board's expert has paid visits of inspection to the restocking apiaries, of which all, except three, have been well managed. An average of five nuclei Dutch bee stocks have been obtained from each imported stock, so that the country is already richer by 1,340 stocks of bees resistant to "Isle of Wight" disease. Inasmuch as the scheme provides for the continued multiplication of the nuclei from the imported stocks, it may be expected that, in the course of a few years, many thousands of stocks of resistant bees will have been reared. Moreover, the official scheme has greatly stimulated private enterprise in the importation of foreign bees.—*Board of Agriculture Weekly Service.*

The Revolution of Modern Bee-keeping.

By A. Z. Abushady (Editor, *The Bee World*).

No, I am not referring to the steam honey extractor, nor to the many other devices that have facilitated the development of modern bee-keeping on a large commercial scale. My interest is in *the economy of the hive*, where negligence in losing one or more generations of bees at a critical time may mean everything to the commercial breeder and the honey producer alike. It may possibly terminate in a serious failure in adequate breeding or substantially in the loss of the honey harvest.

To have finally succeeded in creating an artificial movable comb which is as serviceable to the bees—and even more—as their natural comb is certainly a capital invention to the bee-keeping communities in all progressive countries. The bee world is indebted for this discovery to the genius of George M. MacDonald, of California, U.S.A.

MacDonald's metal comb presents at once to the critical examiner the brilliance of its inventor; at the same time, it does not hide its defects, which mainly centre round its weakness. Yet it is not possible to eliminate this defect without damaging the principle of a "folded metal" comb. Nevertheless, in spite of its defects, the success of this comb has been complete, and the accompanying original illustrations fully testify to this.

Sufficient preliminary notes on this subject have already appeared from the writer in The British Bee Journal, *Bee Craft*, and *The Bee World*, that I may be excused for avoiding a repetition. But I may be permitted to emphasise the fact that, whatever improved metal combs may be introduced in future, this comb will always retain its usefulness. This, again, will clearly show that if an imperfected comb of this type can prove such a success, a more perfected metal comb should be worthy of full satisfaction.

Not the shape of the cells—and it is amusing to read in text-books that there is only one type of a correctly-angled cell—nor the perforation at the base, which are at fault, although the latter may be thought to contribute to its weakness—the very defect that matters, since it is essential when employing an artificial comb that cannot be repaired by the bees to use one which is substantially resistant, and this type of comb cannot be considered durable. Yet, in fairness, one should mention that it is not so hopelessly weak as some prejudiced writers will assure us. It will put up with soft pressure, but it is easily damaged in transit and by accidental rough handling. This, however, does not affect my considered judgment that it is a far superior article to wax foundation, and no impartial bee-keeper who has tried this comb can help to despise the wax foundation system, much as it was considered in the past and is still believed to be a marvellous invention.

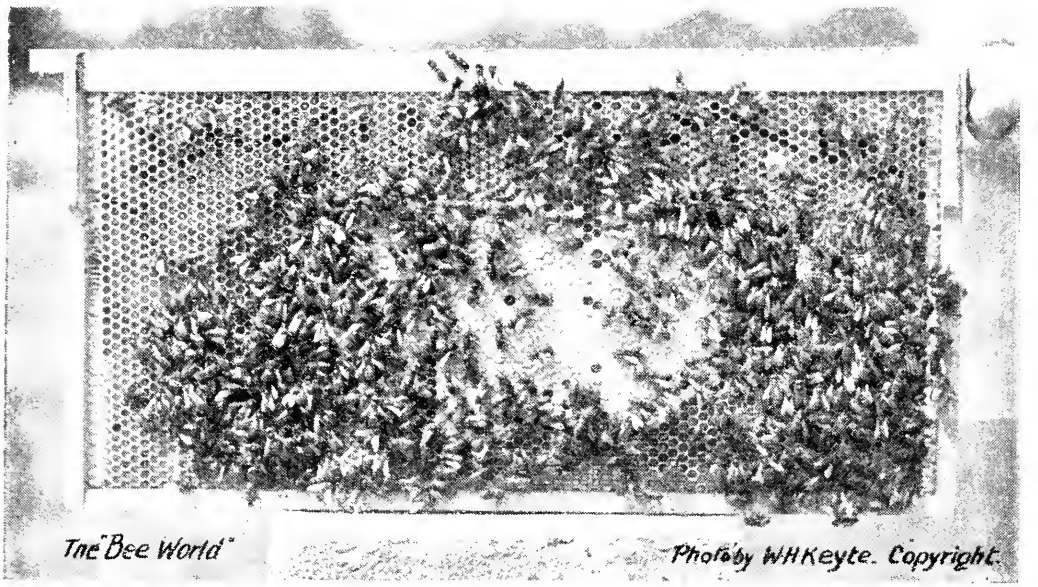
From the first consignment of these combs that reached this country I have had the pleasure of presenting the museum of the B.B.K.A. with a specimen. Another may also be inspected at the museum of the Apis Club. The points which I have summarised above will readily present themselves on inspection of the comb.

Highly favourable reports can be quoted from America; similarly, references may be made to the hopeless opposition of "foundation" manufacturers. But, fortunately, no amount of opposition will be effective in rendering even the most conservative apiarist truly indifferent to the possibilities of the metal comb, which, while possessing its own inherent advantages, nevertheless does not prevent the bees from extending the walls of the cells with wax, and thus facilitating uncapping, as well as presenting suitable ground for clustering.

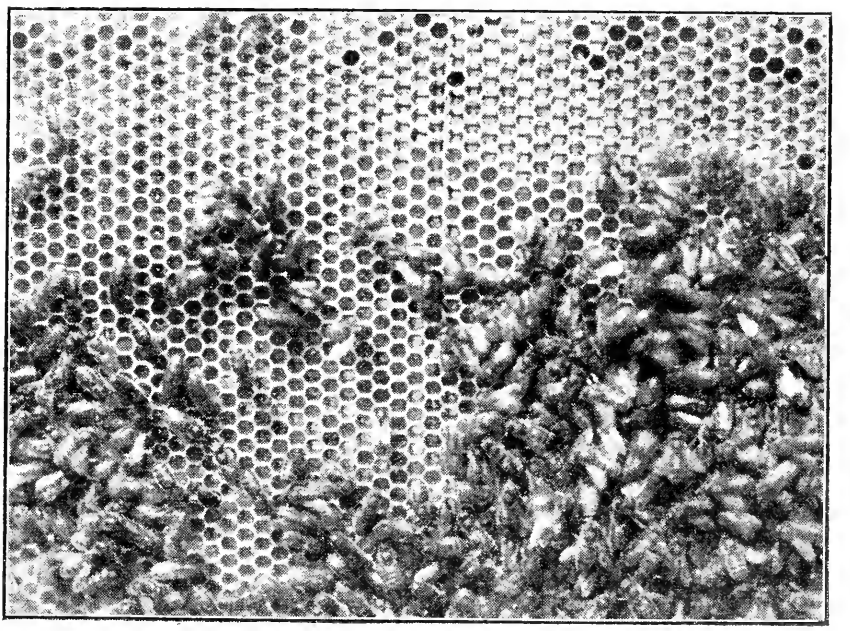
Although I hope in a second article to emphasise the greater advantages of a superior type of metal comb, I doubt that any future experience will materially affect my testimony of the American comb. But once the principle of a successful metal comb has been established, it is clear that one should not be content with the initial success. Towards realising this idea I have been striving, and hope shortly to exhibit a new type of metal comb (British standard size) which has nothing in common with MacDonald's comb except the elements of the metal and the wood. It is not my purpose here to record its features or advantages. And although it will be produced at first in British standard size, it could be produced afterwards in other sizes, especially should a British convention of leading apiarists decide on a new type of a standard frame.

I have endeavoured with all impartiality to give these brief comments for the interests of THE BRITISH BEE JOURNAL readers who may well be now advised of this sudden revolution by a voice in England rather than by a late one from America. It is superfluous now to discuss the discouragement and ridicule that one has met with at the beginning. It is more useful to mention that my testimony has been considered sufficiently impartial by one of the leading foundation manufacturers in the world that my judgment on the metal comb has been privately sought. And, further, I have emphasised more than once that it is highly in the interests of "foundation" manufacturers everywhere to interest themselves in the metal comb instead of opposing it, as it is bound to be *the* comb of the *immediate* future, wherever it can be produced or obtained. It is interesting therefore to record that following the examination of the metal comb on which bees were established, a leading British manufacturer gave an order for ten thousand as a first consignment of the new metal comb, which is hoped to be shortly produced on a co-operative basis. Its retail price in quantity is not intended to be more than 6s. per comb. This is a ridiculously cheap price which cannot be maintained on a commercial basis for two reasons: (1) the quality of the article and the corresponding high cost of production; a different type of comb on the other hand can undoubtedly be produced cheaper, even on a commercial basis; (2) the great economy in cost and usefulness in comparison with drawing-out wax combs, which, when in good condition, have been known to realise the absurd figure of two shillings per comb.

In conclusion, I regret to mention that I have a hundred and one duties which have repeatedly prevented me from writing these hurried notes. It is beyond my power, therefore, with over two months' unanswered correspondence before me, to reply to individual inquiries. I can only promise additional information in the near future to the readers of the JOURNAL. Through the courtesy of its manager, a record will be kept of all orders that may be given. Apart from Trade orders which are sent direct to the Apis Club, any reader who is willing to adopt this new comb can give at once his order to the manager of THE BRITISH BEE JOURNAL, subject to his right to cancel the order if not approving of the type of comb when illustrated and described in my second contribution. All orders will be executed in strict rotation and in good time before the coming season, and the object of booking early orders is merely to estimate and



A metal comb—from an experimental colony—containing eggs, larvae, capped brood, and incomplete queen cell (shown in the upper right section), honey, pollen, and a proportion of the covering bees.



Note the shape of the cells and the presence of larvae in the central area of the comb, also the presence of food as indicated by the attitude of many bees.

In "side combs," where the bees were not enterprising enough to fill the opening at the base of every cell with wax, the queen avoided laying for a while in the non-perfected cells; but later, pearly eggs made their appearance in the virgin silvery receptacles, and afforded a contrast with those that were already capped, also with the brown-coloured cells from which hatching bees have emerged. We noticed that it needed some sight training, even in the case of a few experienced apiarists, to distinguish the presence of eggs in new cells. Once the degree of light reflection and the contrast of colour is appreciated, no further difficulty is met with in this connection.

organise the production. Should the manufacturers be unsuccessful, or should any departure from these preliminary specifications be deemed advisable, prompt information will be given. Three points have therefore to be remembered:—(1) A superior metal comb of British standard size will be placed shortly at the service of British apiarists; (2) early booking of orders means early delivery and facilitates early production; no order will be considered definite until the lapse of a week after the full description of the comb in my second article, and after its approval, when full price should be paid in advance. A single comb is intended to be sold at not more than 6s. 3d., and is meant to be of sufficient consistency to last a life-time with reasonable care. The minimum retail price is intended not to exceed 6s. per comb in quantity; (3) in case of failure to produce the comb as desired, or in case of alteration of the price prompt information will be given to readers of the JOURNAL. Secretaries of Associations are welcome to co-operate for the advantage of their co-members.

It must be clearly understood that the manager of this paper is as much occupied as the writer, and his collaboration for the sake of not allowing British bee-keepers to remain a decade behind others must not be rewarded by unnecessary interrogation and worry. I owe, in conclusion, a debt of thanks to many leading apiarists who have ultimately favoured me with their encouragement regarding the popularisation of the metal comb, and would specially mention my friends and colleagues, the able editors of *Bee Craft*, and the JOURNAL.

Re Extract from the New Zealand Fruitgrower.

With regard to the above, which I forwarded to the *B.B.J.*, I think we can many of us easily understand that men who are keeping bees in a climate eminently suitable for the purpose are inclined to regard our British methods with a certain amount of contempt. Just imagine being able to keep 100 colonies in Root single-walled hives all the year round! Being able to keep extractors driven by gasoline engines, and have properly fitted houses specially built for dealing with honey; to be able to produce honey by the ton with tolerable regularity. Just try and imagine it, and then compare that position with ours. About one season in three or four is good in this part of the country. I suppose it is better in some parts. The whole difficulty in England is that the climate is so uncertain—or, rather, so regularly bad—that bee-keeping will never be possible here on the scale which is usual in New Zealand and many other countries.

To set up an apiary of 100 stocks here in W.B.C. hives, and put up all the necessary building, find extractors, foundation, and all the hundred-and-one things necessary—even if done on the plainest plan, would cost a sum of money so large that it would be very much worse than risky as an investment. We hear of stocks averaging 100 or 150 lbs. These are exceptional rates of yield, and, on an average, 60 lbs. would be nearer the mark, I expect; and *then* feeding would most likely be required.

It is because of this, and not, as Mr. Hopkins appears to think, because the Englishman is a fool, that there is little commercial bee-keeping here. There is nothing I should like better than to set up an apiary on a large scale, but I know full well that I could not live on it here.

Let us take this present year 1919 and see what kind of a time we have had. If this should ever meet the eye of our friend Mr. Hopkins, I hope he will compare it with the corresponding season in his part of the world.

The "bee season" begins on September 1.

About September 1, 1918, it began to rain, and wet weather continued, punctuated by frosts, practically until May 1, 1919. Dry, fine weather then set in, but the bees were not as strong as they should have been, owing to the late, cold, wet spring; therefore they were not able to make the best of the first flow from fruit trees and early flowers. By the time the bees had got strong the drought had scorched up everything, and consequently, having little to do, the bees started swarming. We had dry, hot weather from May 6 to June 13. Little honey was got during the first two weeks of June because of the drought. We had here ½ in. of rain on June 13, and again on June 20, but this rain was not general, and we had more or less showery weather to end of July. But during these six weeks—the best time we have for honey gathering in England—the weather was so cold that no honey was collected, and the bees consumed the greater part of what they had got in May. People were going about buttoned-up in overcoats in the midle of July! August was a fine, hot month for the greater part, and my bees, at any rate, stored more honey during the first three weeks of August than during all the year before. Since then it has been raining, or blowing a cold wind, or something or other untoward, so that it has been almost impossible to get the honey off—what little there is of it.

Of course, 1919 is an extreme case, but not so very extreme either. I have kept bees now for 13 or 14 years, and *only once* (1911) have I ever had a really heavy honey flow that lasted 14 days. What does Mr. Hopkins say to this?

As to the bee examinations, I agree that too much stress is laid on anatomy, etc., and too little on practical work. The English expert is apt to be a faddist; not always, of course. For my own part, I do not see that, for the purpose of keeping an apiary in good working order, any knowledge of the anatomy of the bee is necessary at all. Also, great play is always made with driving bees. This is a simple operation. Supposing the student was made to nail together ten frames, wire them, and fix foundation, or other practical work, as a test. Don't you think, sir, it would give a far better idea of the would-be expert's capabilities than for him to drive a skep and then take a frame out of a hive and find a queen? Also, I would do away with all fixed-comb hives, whether the owners wished it or not. We shall never be free of disease till this is done; and why all this nonsense is written about skeps being more or less free of disease I cannot imagine. If this is so, then where have all the skeps gone? (A very pertinent question.—Eds.) Ten years ago they were about the villages in hundreds; now you hardly ever see any. I've been driving cottagers' bees when I have taken up a dozen in one garden. Where are they? Why, they have all died out from "Isle of Wight" disease, and have been done away with. The man with movable-comb hives starts again, for the most part. The skeppist does not. Years ago, I fancy, there was less F.B. in skeps than in movable-comb hives, but this was because the owner of a diseased frame-hive spread it to the others by handling. This he could not do with a skep. Also, the skeps swarmed most years, and the broodless interval often results in a cure, if the disease is not too far advanced.

I believe that the climate here is our worst enemy, and our next arises out of it. Our apiaries are too small, and too many. Thousands keep bees who know practically nothing at all about them, instead of a few large bee-keepers who should be getting their living out of their bees. Indeed, the utter ignorance of many people who have a few bees is quite astonishing, and I often wonder why our societies are always trying to increase the number of bee-keepers instead of looking after those who have them now, of whom there are already too many.

Speaking of our climate, this is the one great difficulty with Italians and other prolific strains. Just as we get a fine stock—say, 30 combs of brood and a couple of supers full of bees—we often (usually, I think) get a cold fortnight, or a wet fortnight, or a dry fortnight at the end of fine weather (as in June this year), and the whole season is often spoilt by swarming, and (here I know I shall not be agreed with) no device or class of hive, or ventilation, or more room, or any other thing, will prevent a certain proportion of your bees coming out.—R. B. MANLEY.

[Mr. Manley is rather out of date as to examinations. Driving a skep has not been a part of the preliminary examination for about six years. The B.B.K.A. syllabus for this examination states that it will consist of—

"1. The manipulation of a stocked frame-hive.—Carefully withdrawing and returning such combs as may be necessary for finding and pointing out the queen to the examiner; catching the queen; placing her in a box without injury; turning a comb bottom upwards, then reversing it and returning it to the hive; also the making of artificial swarms, the putting together of sections and fitting them with foundation, the fitting up of a section rack, putting together, wiring and fitting frames with foundation; the candidate to provide the materials.

"Special account will be taken of the neatness, quickness and quietness with which the operations are performed, together with the manner of subduing the bees, and of the amount of disturbance caused thereby. Veils may be worn, but no protection to the hands will be allowed.

"2. Oral questions relating to elementary knowledge of (*a*) the classification and natural history of the honey-bee; (*b*) healthy and unhealthy conditions of stocks; (*c*) the recognition and treatment of diseases; (*d*) old-fashioned and modern methods of bee-keeping; (*e*) construction of frame hives, "standard" and other frames, section racks, etc.; (*f*) various means of securing surplus honey; (*g*) the most important points in the management of an apiary at different seasons of the year."

The papers for the intermediate and final examinations are in two parts, one being on practical work and the other on scientific subjects; the latter not necessarily all on anatomy, though we believe some questions on this subject are given, as a rule. It may be possible to run an apiary with little or no knowledge of anatomy, but the bee-keeper who takes enough interest in bees to study their anatomy is likely to also take more interest in the bees generally, and be more

successful than those who do not. We once visited a bee-keeper who owned about 60 stocks, and did not even know the metamorphosis of the bee, neither did he know foul brood when he saw it, and every colony that he allowed to be examined was more or less affected. The B.B.K.A. are not at all likely to commit such a blunder as not to require candidates for the intermediate and final certificates to study the anatomy of the bee.—EDS.]

Honey Show at Bromley.

A Honey Show promoted by the Kent Bee-keepers' Association (Western Division), was held at the Science and Art School, Tweedy Road, Bromley, on Saturday, September 6. Mr. W. E. Clifford, 63, Southlands Road, Bromley Common, the district secretary for Bromley, carried out the duties of show secretary, and with such marked success that a very cordial vote of thanks was passed to him for his able services.

The show was to have been opened by the Mayor (Councillor F. Gillett, J.P., C.C.), but, his Worship being away on a well-earned holiday, the pleasure of performing the opening ceremony fell to the Deputy Mayor (Alderman R. W. James).

There were twenty classes—sixteen being open to members of the Western Division of the K.B.K.A., two being open to the United Kingdom, and two being for Boy Scouts and Girl Guides. There were no entries in the last two classes, and in a few of the other classes competition was poor, and no awards were made. Generally speaking, the honey on view was of most excellent quality.

Placards with advice to bee-keepers met the eye of the visitor, the conditions for success being given as follows :—

A crowd of bees,
A wealth of brood,
Sufficient warmth,
And ample food.

The judge was Mr. W. Herrod-Hempsall, and the following is a list of the prize-winners :—

OPEN TO MEMBERS OF THE WESTERN DIVISION OF THE K.B.K.A.

Class 1.—Six sections—1, Mrs. Culver, Swanley.

Class 2.—Three sections—1, Mr. A. Hook, St. Mary Cray; 2, Mr. H. Davis, Crayford.

Class 3.—Three jars extracted honey, light—1, Mr. L. W. Matthews, Crockenhill; 2, Mrs. F. Sykes, Erith; 3, Mr. H. E. C. Carter, Blackheath; v.h.c., Mr. A. E. Barnes, Anerley.

Class 4.—Three jars extracted honey, medium—1, Mr. G. J. C. Vincent, Anerley; 2, Mr. W. J. Martin, Eltham; 3, Mr. E. E. Brown, Sydenham; v.h.c., Mr. L. W. Matthews.

Class 5.—Three jars extracted honey, dark—1, Mr. G. J. C. Vincent.

Class 6.—Three jars extracted honey, any colour—1, Mr. A. Hook; 2, Mr. T. Healey, Farnborough; 3, Mr. L. W. Matthews; h.c., Mr. W. J. Martin and Mr. A. E. Barnes.

Class 7.—Two jars extracted honey, granulated, any year—1, Mr. A. E. Barnes; 2, Mr. H. Davis; 3, Mr. H. E. C. Carter, Blackheath.

Class 8.—Two shallow frames—1, Mr. A. H. Briggs, Blackheath; 2, Mr. A. Goodwin, Bickley; 3, Mr. W. J. Martin.

Class 11 (Gift class).—1 jar extracted honey—1, Mr. L. W. Matthews; 2, Mr. G. J. C. Vincent; 3, Mr. W. J. Martin; v.h.c., Mr. H. Davis; h.c., Mr. A. E. Barnes, Anerley.

Class 12.—Observatory hive, with bees and queen (all combs to be visible on both sides)—1, Mr. A. E. Barnes; 2, Mr. M. J. Hammond, Beckenham.

Class 13.—Best exhibit of articles of food in which honey is used (open to members' wives and lady members)—1, Mrs. M. J. Hammond; 2, Mrs. Rommel, Bickley; 3, Mrs. W. W. J. Martin.

Class 15.—Beeswax in one cake, not less than 8 ozs.—1, Mr. G. J. C. Vincent; 2, Mr. A. E. Barnes; 3, Mr. W. J. Martin.

Class 16.—Home-made appliances in connection with bee-keeping, judged for utility—1, Mr. W. F. Millett, Bromley; 2, Mr. H. Davis; 3, Mr. H. E. C. Carter.

OPEN TO THE UNITED KINGDOM.

Class 17 (Gift class).—One section—1, Mr. H. Davis.

Class 18 (Gift class).—One jar extracted honey, light—1, Mr. H. Davis, Crayford; 2, Mr. H. Sanderson, Cambridge; 3, Mr. J. H. Oldfield, Yorks.

Four points were given for a first prize, three for a second and two for a third, and Mr. H. Davis, of Crayford, with 17 points, had the distinction of winning the Challenge Cup kindly offered by Mr. A. F Barnes, of Anerley.

During the afternoon Mr. Dewey gave a lecture and demonstration, and there was also a demonstration in honey extracting with the new "Baird" extractor.

Considerable interest was taken in a frame building and section folding competition. The winners were : 1, Miss Berridge; 2, Mr. Brown; 3, Dr. Lord. The judges were Mr. Bryden and Mr. Martin.

Mr. Dewey distributed the prizes, and

said that brought to a conclusion the first honey show held in Bromley. It had been an excellent show in every respect, and they hoped it would not be the last honey show held in Bromley by any means. They were very much indebted to the committee and to Mr. Clifford in particular. Mr. Clifford had carried out his duties in a most excellent way.

Mr. Judge also spoke in appreciative terms of the services of Mr. Clifford, who, he said, had done his work extremely well.

A cordial vote of thanks was passed to Mr. Clifford, and thanks were also tendered to the ladies for the work they had done, and to the Kent Education Committee for the use of the Science and Art School.—*Communicated.*

Portsmouth and District Bee-keepers' Association.

The first annual show of the Portsmouth and District Bee-keepers' Association was held at Portsmouth Town Hall, in conjunction with an Allotment Holders' Show. Mr. A. F. Hardy, of Bishop's Waltham, judged, and made the following awards :—

OPEN CLASSES.

Best six 1-lb. sections.—1, Miss L. Sutton, Studfield, Botley; 2, A. E. Warren, Bletchley.

Best six 1-lb. glass jars extracted honey.—1, E. W. Sherwood, Nether Wallop; 2, E. J. Pannell, Havant; 3, A. E. Warren, Bletchley.

Best six 1-lb. glass jars granulated honey.—1, E. J. Pannell, Havant; 2, W. Smith, North End; 3, A. E. Warren, Bletchley.

For the best amateur appliance.—1, P. White, North End, Portsmouth; 2, A. J. Steel, West Ashling, Chichester; 3, F. W. Drewe, North End, Portsmouth.

For the best shallow frame (one entry).—W. Smith, North End.

LOCAL CLASSES (MEMBERS).

Best six 1-lb. sections.—1, Dr. F. Beddow, Waterlooville; 2, E. J. Pannell, Havant; 3, Miss Hawkins, Portsmouth.

Best six 1-lb. glass jars extracted honey.—1, J. R. Cansdale, Waterlooville; 2, W. Smith, North End; 3, W. Evans, Milton.

Best four tablets wax, 2 ozs. each.—1, Dr. F. Beddow, Waterlooville; 2, W. Smith, North End; 3, G. Boddie, North End.—J. SINNETT.

Several letters and articles are in type, but are unavoidably held over until next week.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

October 21 to 24, Dairy Show, Royal Agricultural Hall, London.—Particulars of the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1. **Entries closed.**

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under **the** *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

PURE Cambridge Honey (guaranteed) in 28-lb. tins, 58s. 6d., tin and case free; sample 4d.—YOUNG, 42, James Street, Cambridge. ru.65

EMPTY COMBS wanted from healthy hives.—Particulars and price to HOUSTON, Ellen Villa, Sidcup. u.70

OFFERS wanted for six 28-lb. tins prime English Honey. Bees, fed for wintering, £4 per stock.—VINCENT, 132, Croydon Road, Anerley. u.79

QUEENS.—Few fertile hybrid, mated August, from vigorous stocks, 8s.—H. WILCOX, 46, Lyndon Road, Olton, Warwicks. u.83

1919 FERTILE QUEENS, Italian Hybrids, seven for disposal, 7s. 6d. each.—HOSEGOOD, 7, Purley Park Road, Purley, Surrey. u.84

FOR SALE, two Stocks, 9 frames, with Hives, or purchaser supplying boxes. What offers?—CLARKE, Orsett Hall, Grays, Essex. u.85

FOR SALE, Light Honey, finest quality, in 28-lb. tins, £10 cwt.—TAYLOR, Schoolhouse, New Leake, Boston. u.86

HIGH-GRADE Light 1919 Norfolk Honey, in 28-lb. tins, returnable, 2s. 3d. per lb.—ETHERINGTON, Pulham Market, Norfolk. u.87

WANTED, Honey Extractor. State price and condition. — PHILLIPS, 65, Broomspring Lane, Sheffield. u.88

ANY bee-keepers using large frames would greatly oblige by writing to me saying what size and how many in use. Will willingly refund cost of postage.—R. B. MANLEY, Brightwell, Wallingford. u.80

THICK FELT QUILTS, 18 in. square, three for 2s., post free.—JOHN W. PRICE, Outlook, Barming Heath, Maidstone. u.81

SEVERAL 1919 Hybrid Queens, bred from Penna strain, for Sale, 7s. 6d. each.—3, Belgrave Villas, Nether Street, North Finchley, London, N.12. u.82

WHITE WYANDOTTES.—1919 Cockerels, bred from hens of 288, 282, 279 and 278-egg strains, sired by a Mrs. Cartwright's noted large-egg male, from 12s. 6d. each; few splendid 1918 Hens from 15s.—MISSES COATES, Broadheath, Presteigne. ru.89

WANTED, for Central America, an experienced Bee-man with a thorough knowledge of the rearing of queen bees.—Apply, "Bee Expert," c/o ABBOTT, Eastcheap, London, E.C.3. u.90

COMPLETE APIARY for Sale through removal, comprising nine Hives, three strong Stocks, Hybrid Italians, ample standard Shallow Frames and Sections, 3 lbs. Foundation, 35 lbs. Candy, two Smoker's Gloves, Hat and Veil; in fact, everything for running an apiary. The lot for £30. No offers. —Full particulars from A. M. D. DE GROOT, ESQ., The Mansion, Sundridge Park, Bromley, Kent. u.91

WANTED to rent or buy House with ground suitable for bee-keeping within accessible distance of London; any county.—McDONALD, 34, Hulse Avenue, New Barking, Essex. u.92

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Annual subscription, 2s. 6d., post free. Send for a free specimen copy.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

WHEN the sainfoin blooms do real bee-keepers object to the intense yellow stain which then dyes the frames, quilts—the very wax in the combs? Ask them. Six packages Flavine, 6d.—SMITH, 30, Maid's Causeway, Cambridge. u.94

WANTED, first quality Sections of Honey, any number from 1 dozen to 500; also Honey in bulk. — COLEWOOD APIARY, New Road, Mitcham, Surrey. u.93

"ISLE OF WIGHT" DISEASE CURE.—A sure remedy for disease, 3s. 6d. per bottle, with full instructions. Latest testimonials sent on receipt of stamp.—CHITTY, "Burleigh," Cassington, Oxon. u.74

1919 GUARANTEED imported fertile Golden Italian Queens, big supplies during August and September, 12s. each; specially selected, 15s.—GOODARE, New Cross, Wednesfield.

Books for Bee-keepers
NOW IN STOCK.

		Postage
A.B.C. and X.Y.Z. of Bee Culture (ROOTS)	13/-	... 9d.
A Modern Bee Farm (S. SIMMINS)	7/6	... 6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	... 1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	... 1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	... 3d.
Dissectible Model of Queen Bee	4/6	... 3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	... 1d.
Fifty Years Among the Bees (DR. MILLER)	5/-	... 5d.
Honey and Health (A. HOPE) ...	-/6	... 1d.
Honey and Its Uses (REV. G. BANCKS)	-/1	... 1d.
Honey Vinegar (REV. G. BANCKS)	-/2	... 1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	... 6d.
Langstroth's The Hive and The Honey Bee	7/6	... 6d.
Maeterlinck's Life of the Bee	3/6	... 6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	... 2d.
Productive Bee-Keeping (PELLET)	10/6	... 6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.) ...	2/-	... 3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	... 2d.
Scientific Queen Rearing (G. M. DOOLITTLE)	3/6	... 4d.
Snelgrove's Method of Re-Queening	-/6	... 1d.
The "Townsend" Bee Book ...	2/6	... 2d.
WAX CRAFT (T. W. COWAN) ...	2/-	... 2½d.
Wilke's Book on Swarming ...	1/-	... 1½d.

MISCELLANEOUS.

The Lore of the Honey Bee. By TICKNER EDWARDES. **2/-**, postage **2d.**

The Humble Bee. By F. W. L. SLADEN. **12/6**, postage **6d.**

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

THE
British Bee-Keepers' Association.

Insure *now* against loss by damage done through bee stings. All particulars from

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

The 'Kent' Standard Model Hives & Appliances

TESTIMONIAL. *May* 12.

DEAR SIR,—I have had an opportunity of comparing the material and workmanship of your hives with others on the market, and in my opinion there is no sort of comparison between the two, yours being altogether superior in every particular.—Yours faithfully,——

S. J. BALDWIN, Stanley Road, Bromley, Kent.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., Nov., 30, 1916.
EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

"I had the loan of a copy of the British Bee Journal and saw Izal recommended. This I obtained and with a greenhouse syringe I soused the bees from the top of the combs . . . in a few days all signs of sickness had disappeared . . . : Whatever anyone may say to the contrary "Isle of Wight" disease is curable and that by a very simple process.
'Amateur."

Sold Everywhere in Bottles, 9d. and 1/3 each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

YOU WANT NOW
EXTRACTORS, FEEDERS, HONEY TINS AND PACKAGES,
and our new perfect Wintering Board.
MEADOWS,
SYSTON, LEICESTER.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

Italian Queens
direct from Italy.

Address :—

E. Penna, Bologna, Italy.

All the queens I can rear have been booked up to the end of the season. Within December, the Price List for 1920 will be sent on application.

"I wish to inform the readers of THE BRITISH BEE JOURNAL that I could not supply any queens to the British Board of Agriculture for the re-stocking scheme. The claims and remarks which have appeared in THE BRITISH BEE JOURNAL have no reference to me."

ITALIAN QUEENS

Direct from Italy.

Address:
Signor Gaetano Piana,
Castel San Pietro,
near Bologna, Italy.

All Queens are reared by the most up-to-date and scientific methods. Mr. W. Herrod-Hempsall has personally inspected the apiary and methods employed, with which he is perfectly satisfied.

PRICES FOR 1919.
For 1 Fertile Queen: Aug., Sept., 9/-

Carriage paid in Great Britain. Cash must accompany all orders, which will be executed in rotation. Guaranteed safe arrival of all Queens, but not the introduction. Bees dead upon arrival must be sent at once to "B.B.J." Office.

For the mutual convenience of all parties, Il Signor Piana has made arrangements that all communications, orders and remitances of the readers of "B.B.J." and "B.K.R." can be addressed to him, c/o British Bee Journal, 23, Bedford Street, Strand, London, W.C.2.

A B C AND X Y Z OF BEE CULTURE.

By A. I. and E. R. ROOT.

We have just received a number of the 1917 Edition.

All Bee-keepers should possess a copy of this comprehensive work.

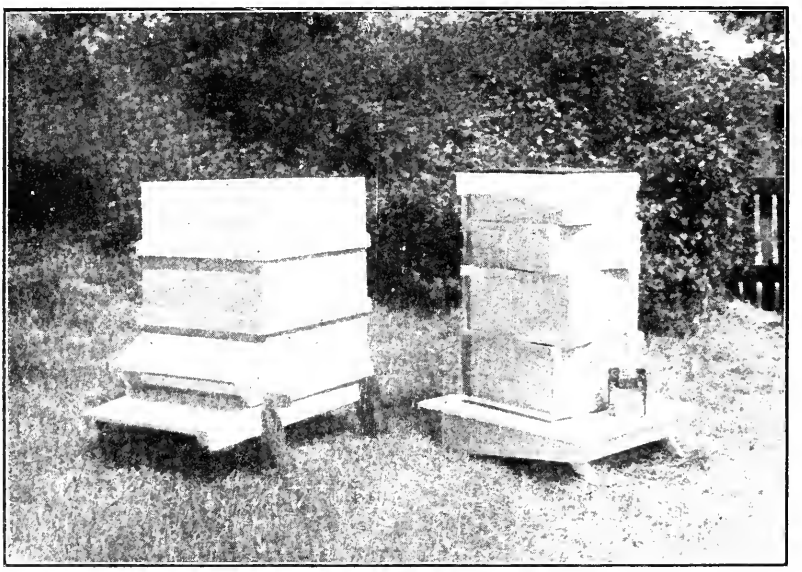
Price, post free, **13s. 9d.**,
from the BRITISH BEE JOURNAL Office, 23, Bedford Street, W.C.2.
(Sold by other houses at 15s. 9d.)

Winter your bees in good sound hives and so minimise the risk of losing them.

The Stevenson 200-lb. Skyscraper Hive (W.B.C. Type) will not only do this for you, but will also enable you to keep the bees next year on the most modern and scientific lines.

It has many advantages and does away with the inconveniences experienced in using ordinary hives, thus saving time and labour and helping you to get the best possible results.

The materials and workmanship are of the best, and delivery can at present be given within a week of order. Order now so as to winter your bees in this hive and ensure a better harvest next year.



The roof forms a level platform suitable for standing brood boxes, supers, etc., on. When the legs pivotted inside are folded down and it is placed on the ground as shown above, there is no need to spread sheets or newspapers to stand them on, or to risk losing the queen in the grass.

Send for full particulars and price to:—

The Croydon Aviation & Manufacturing Co.

LIMITED

45, Oxford St., HIGH WYCOMBE.

To Advertisers.

Will our advertisers please not that "displayed" advertisements must reach us not later than first post on Monday morning? Owing to readjustments of working time at the printers, the JOURNAL must be on the printing machine several hours earlier than it has been up to the present in order to get the paper out in time for post on Wednesday.

Prepaid advertisements can still be accepted by first post on Tuesday morning, but these also should be posted in good time. We have in a number of cases lately not received advertisements before Wednesday morning that were posted on Monday.

At the time of writing there is some uncertainty as to the time this week's JOURNAL will be delivered owing to the strike. If it is late readers will know the reason.

Jottings from Huntingdonshire

To-day (25th) has been one of those perfect mellow autumn days that bees love. How happy they have been! It was fascinating to watch them come hurrying home laden with pollen, all in such haste that they could not even wait to give the password—or whatever the bees have as an equivalent—to the sentinels at the doors. For once they have outwitted me. They flew off in and returned from a south-westerly direction like bullets from a Maxim gun; but I haven't been able yet to locate where the wealth of pollen is gathered. Some new source has opened up, for all the hollyhocks are deserted, and the ivy blossom is receiving very scant attention. Bees never idle around a garden for long when they can get all they want in an open field or a well-stocked wood. I must find out what flowers they are working just now. The colour of the pollen shows that it is not gathered from the tree ivies, and suggests a flower of the *composita* order. I must find out and take note.

The Huntingdon Federation of the Women's Institutes have held their exhibition, and I had the pleasure of judging the honey. The number of exhibits was not large, but with one exception all the jars and sections contained honey of a fine quality: indeed, that carrying off of the first prize was as fine a sample as one could wish to see, and that awarded the second prize was not far behind. These women's institutes have achieved amazing things, and their possibilities are illimitable. In the BEE-KEEPERS' RECORD I hope shortly to outline a scheme for these institutes with regard to the Bee world. It is well for us to know when these good women take up a thing they make it go, and the bee and honey industry will, I am sure, welcome a push on. This reminds me of a story I once heard told by a bishop. His lordship one day saw a boy straining away at a laden hardcart in his endeavour to draw it up a hill. Thinking to save the boy from overdoing himself, the bishop suggested to the lad that if he took a zig-zag course he would find his cart go easier up the hill than by his pulling straight. The boy followed the advice and got half-way up the hill with more ease, and then stopped to take a "breather." "There," said the bishop, "isn't that a much easier way?" "Ah," responded the lad, "but I knaws easier way still." "And what is that?" asked my lord. "Why, thee get ahind and push," was the prompt reply. If we ever do get a move on it will be the "push" provided by the ladies that will do it. I am more than inclined to think that among the earliest orders placed for metal combs the majority will be placed by women. What wonderful things they are! —the metal combs, I mean in this case, not the women—they deserve to succeed if only on the side of cleanliness. Everybody who loves his bees knows how they love cleanliness; and what a joy it is, when examining stocks, to see the floor-boards of the hives as clean as a scrupulous housewife's pastry-board. One doesn't need to worry much when one sees the floor-board as stainless as this. It is pretty certain the bees themselves are in the —— of condition. I don't know what word to put where the dash is, for I have never seen a bee "pink."

The syllabus of the B.B.K.A. Preliminary Examination, as published in last week's issue, covers a useful field. Dare one ask whether the examiners tie themselves in any way? In other words, do they look for orthodox answers to orthodox questions, or do they allow an outlet for originality? For instance, think of the multifarious ways of making artificial swarms. If a candidate mentioned, say, a dozen methods, but failed to give the orthodox mode of procedure, would he or she be turned down? Again, subduing bees. Bees take great exception to the odour of some people, and will never be subdued by them, however carefully and quietly they are handled. Others, again, give forth an odour pleasant to the bees. These people, if they are not nervous, can do anything with the little ladies of the hive and never get punished, lucky mortals!

[Much has to be left to the discretion of

the examiner. We should say the test of an answer would not be so much its orthodoxy as the practicability of the method given. So far as subduing goes, it is no difficult matter for an examiner to determine whether the bees have a dislike for the operator—which is very seldom—or if any trouble with them is caused by faulty manipulation.—EDS.]

I have said above that bees do not care to be wasting time in a garden when there is the garden of the whole countryside at their disposal. But it is worth emphasising the fondness of bees for the flowers of onions, leek, and garlick. It is, therefore, well worth while planting a few onion bulbs for flowering next spring. Bees work these flowers by way of a tonic, and anything toning up the system of a bee is truly worth having about. "Yadil" should be used by every bee-keeper unable to grow onions, or the like, in their gardens. This supplies in an artificial way what the bees would, if they could, get naturally.—E. F. HEMMING.

P.S.—The *B.B.J.* enjoys an extensive circulation. I get letters bearing on my remarks from all over the place. May I request one thing, *a franked envelope when a reply is needed?*

Notes from South Wales

"Good morning; is this where the bee-man lives?" Such was the request of Mr. David Mainwaring, of Bulch, Breconshire, on a visit to his friends in this village, whom I met at the door. He thought he would like to call and see me and have a chat about the bees, and also see the apiary, as he had heard that I kept a lot of bees here, and thought that he would like to spend an hour among them once more. Fortunately it was a splendid morning, after the few cold days we have had. The bees were all flying well, and one lot was thick on the alighting board, with a little robbing going on, and he remarked, "Are they going to rise?" (what we call swarm). I explained matters, and he soon understood. "I am 84 years old," he said, "and I have been keeping bees for the last 12 years, until two years ago they all died, and it was not because they wanted for food, mind, for when I looked inside there was plenty, and I had over 12 lbs. out of each hive after I cleared out everything. I think it was because I did not put enough blankets on them, and yet, after all, I had four on each, and that ought to have been enough—don't you think so? The summers have not been the same to me since I lost them, for when I go out to the garden I miss their beautiful voice, as if they were talking to me; and I believe that they do talk to each other, for when they are about to rise, and hanging out in the front, you go out in the evening and listen, you will hear different sounds inside then to what you do before they are thinking of rising. How I started was, a swarm came to my garden and I put them into a straw hive, without any veil on, and never had a sting. I used to make my own straw skeps, but when I saw the advantage that the patent hives gave over the skeps I was not long before I got some; and I can tell you that they used to give me a good lot of honey, and without killing the poor bees, for if there was anything that I disliked doing it was killing them after they had worked so hard all the summer."

I said to my welcome visitor, "I suppose you like honey?" and he said that he was not so fond of it, but it was the bees that he liked so much, and he said how he would love to be here in the summer when the bees were in full swing, and what a roar there must be with all these hives. "And are they all full?" I said, "Yes," and he said that he is hoping to get a lot next season, if he can, and make another start. Well, I thought to myself, four-score years and four, and thinking of making another start in bee-keeping! What a love and what a delight he must have in them! We often hear "Too old at fifty," but to hear him talk of the future at his age does one good, and I hope that he will have his desire next season by having some bees. Apart from being a bit deaf, he is hale and hearty and works on the land every day. He thought my hives were very large up against the one he had, and I told him that they were 15-frame ones. He wanted to know if they would be full of bees in the season, and said, if so, what a lot of honey they would bring in. I told him that they usually cover 14 combs, and in a good season they would store about 100 lbs. of honey. I was very pleased to have him call, and gave him a hearty invitation any time he was here. When he shook hands to part I felt it was the shake of a bee-lover.

I see that the bees have started to kill off the drones at last, so I suppose we have had all the honey for this year, excepting a little from the ivy, which I noticed as I was going to church is just coming out. The old tower is covered with it, and it won't be long before the church is the same if they don't cut it.

The honey season is just like a thunderstorm, to my mind. You can hear it at a distance, then it will come nearer, until it comes with its full blast, and then it will die away. So it is with the flowers for the bees—just a few at first, and then more until the meadows are a mass of flowers, and then they will start to die away, just like the storm.—E. BOOBIER, Valley Apiary, Bishopston.

The Staffordshire County Bee Re-Stocking Scheme.

The apiary at The Grange, Penkridge, was open to visitors on the 23rd and the 26th ult. Saturday was an ideal day for outdoor work, and there was a large gathering of bee-keepers and others interested in the movement. Amongst the visitors were the Rev. Prebendary Dunkley, Chairman of the Staffordshire Education Committee; Alderman J. T. Homer, Chairman of the South Staffordshire Sub-Committee; Rev. A. R. Alsop, Chairman of the Staffs. B.K.A.; W. Griffiths, Secretary of the Staffs. B.K.A.; and A. E. Taylor, Secretary of the South Staffs. B.K.A. Mr. J. Price, the County Council bee expert, was also present, and explained the re-stocking scheme and demonstrated the method by which he is raising nuclei from imported Dutch bees and Italian queens.

Prebendary Dunkley, in the course of an address, said the work which Mr. Price was doing could not but be of great benefit to the county. The Education Committee stood behind Mr. Price, and anything he wanted, within reason, to enable him to push forward the work he would receive. Those present who had experience of bee-keeping knew that, given fair play and an absence of "Isle of Wight" disease, bee-keeping was not only a profitable industry, but did an incalculable amount of good in the fertilisation of fruit blossoms.

Alderman Homer, who followed with a few remarks, said that the Staffordshire Education Committee were taking a deep interest in this work, and were providing instruction in bee-keeping in a certain number of schools. The work would be developed at their new farm institute at Rodbaston. With regard to the "Isle of Wight" disease, it was a disgraceful thing that certain people should be allowed to keep bees which were hopelessly diseased, and to spread the disease by neglecting to take the necessary measures. There was recently a case in which a bee-keeper in the county was supplied with a stock of bees which were obviously diseased. The case was taken to the county court, where a verdict was given against the person who had supplied the bees. He then moved the following resolution, "That this meeting of Staffordshire bee-keepers appreciate the action of the Food Production Department in inaugurating the re-stocking scheme, but desire to impress upon the Government the desirability of legislation on bee diseases to ensure success of the scheme."

Mr. Middleton seconded the motion, which was carried unanimously.

The visitors, after an interesting inspection of the apiary (of which the photograph shows a small part, with the expert and two of the original Dutch skeps and two of the Staffordshire nuclei hives), partook of tea at the Littleton Arms Hotel. —G.

PART OF THE STAFFS. BEE RE-STOCKING APIARY.
(Kindly lent by the "Staffordshire Advertiser.")

Stray Notes, Comments and Questions.

A few more stray comments, Mr. Editor, somewhat belated, though. My brother at Steeple Gidding has been making experiments, which on the face seem to prove that bees prefer to go south; but actually, I think, if he carried his observations further he would find they went south because their principal forage ground lay in that direction, also those of his neighbours. I was observing my own bees a few days ago (they have not been out the last three or four days owing to the cold). They were going, almost without a solitary exception, directly east. In the years that I kept bees before, my hives faced south-east. They nearly always swept round to south-west, because that was the direction in which their principal foraging ground lay.

I would also ask my kinsman if he is sure bees prefer blue to any other colour. Members of the *Prunus* genus mostly have white flowers or pink; the same applies to members of *Pyrus* genus. Of the *Legumens* the only blue that counts are the lupins. Our principal honey plant is white in colour. Then nearly all the *Crucifers* are yellow, and they are great honey yielders; so are the white and pink flowers of the genus *Rubus*. In the early spring, too, the green flowers of the *Ribes* and *Acers* yield their quota. I do not think bees are attracted by the colour, but by the smell of nectar, to the flowers they visit.

By the way, I have only seen two wasps this season.

Having only recently commenced to again take the B.B.J., after a lapse of years, I miss some of our old friends who used to contribute to its pages, particularly D.M.M., of Banff, and W. J. Farmer, of Truro (I believe). Have they joined the majority, Mr. Editor? [Not yet.—EDS.]

With regard to the frame controversy, which is a kind of hardy perennial, I have personally never seen a reason for departing from the "British Standard Frame."—D. J. HEMMING, Runcorn.

Notes from Gretna Green.

While the honey season here has been good, not one of my stocks gave a three figure surplus as in former years. My two best colonies each gave 80 lbs., in sections, and increased to four—all double-storied. The original stocks cost me £5 a-piece in May, and when received barely covered ten frames of comb, with brood in four only. They are now Italianised, and closed down on 23 and 24 heavily stored standard frames respectively, so should be worth about double their first cost.

It may seem extravagant bee-keeping to leave so much honey in one hive, but it must be borne in mind that each double storey colony wintered is equal to two ordinary ones, and can be made into a couple of strong colonies previous to the honey flow.

Apropos of the renewed agitation for a large brood frame, we should like to hear what comb honey producers have to say on this debatable subject. Mr. S. P. Soal always insisted on the "commercial" frame being superior to the "standard" for section honey production.

Personally, my experience has been with the still larger "Dadant" brood frame, and I have not yet forgotten the sight of these frames filled with brood from side to side and from top to bottom.

The resulting population was enormous, and the clover surplus larger than from any other of my stocks, but very little heather honey was ever stored above those large, deep frames.

For this reason the large hive was laid aside, but I re-stocked it this season with a strong swarm, and have left all the honey, clover and heather alike, to aid the Italian queen in building up a strong colony for 1920.—J. M. ELLIS, Gretna, Carlisle.

Notes from Somerset.

In reply to Mr. Hemming's question on page 407, I might say that the stock which yielded 190 lbs. this year, an average season in the Glastonbury district, was an extra strong stock, the strongest I have ever known not to swarm. It does not represent the average yield per hive for the neighbourhood, which would be about 30 lbs. This district is not an exceptionally good one, in fact it is rather poor compared with places about 20 miles away, where they get some very big honey flows from the bilberries and heather, besides the usual sources between. Like most districts in the south of England, where fruit trees are abundant, our best honey flows usually occur from the middle of April to the end of May. We are often advised to get our stocks strong by the time the honey flow commences. A big yield is easy, provided we can get over the difficulty of making a stock strong enough to super by April 21. The above stock was strong enough this year, and by the end of May over 100 lbs. of honey were stored in the supers, while the brood in all the other stocks in the district was still getting the entire benefit of all that came in. The amount of honey a strong stock will consume in a season is astonishing; I will not

venture an estimate, as it would be quite beyond relief. It would be interesting to know how much food is consumed to produce a pound of young bees; if we could fix that there would be something substantial to start reckoning with. The amount of honey such a stock, ready for supering in April, will gather in a *good* season is enormous. The year 1914 was probably the best season known, but all our bees were cleared out with the disease, and there are no records to tell of the wonderful flow of nectar. The year 1917 was a good one, our best stock beating all previous records in the south-west of England with a surplus of 308 lbs. We intend beating this in the next good season. One Sunday in June, 1915, deserves special mention. That day there was a most remarkable flow, rather over 300 bees a minute were entering the strong stock. During the day *they stored in the hive 20 lbs. of honey.* I never expect to see them do a better day's work.

During the last few years we have specialised on a strain of bees that will live through the "I.O.W." disease, choosing, also, the best honey gatherers. Many suggestions have been made as to the causes for the spread of "I.O.W." disease—some correct, some otherwise. We are at present investigating an apparent cause, which, so far as we know, has not been published. Our bees appear to be susceptible to it, but, knowing the cause, we have been able so far to stop the spread of the disease. Experiments are still being carried out, and if they prove satisfactory we will send a full account to the B.B.J.—EDWIN I. WALKER, Hon. Sec., Street and Glastonbury B.K.A.

A Shropshire Garden.

The autumn time for garden planning has arrived, and every bee lover with a garden should now be thinking of how to help along the honey crop for 1920, combined with the beautifying of his own ground. Unfortunately, the price of bulbs, like everything else, has soared into altitudes unheard of, and beyond the reach of many pockets. In early spring bees seek for pollen bearers, such as snowdrops, crocus, scillas, aconite; the bulbs of these are high in price, but luckily most gardens possess a few of them, and also have a supply of the later pollen plants, such as single white arabis, aubretias, saxifrage, and wallflowers and violets, which also give some honey. All these can be planted in any waste ground, and will flourish exceedingly and be much appreciated by bees. Long edgings of thyme, sage, and hyssop should be planned. These look lovely when in flower as a foreground for taller blooms, and provide good forage for bees besides being useful in the kitchen. The herb garden has been such a favourite resort for bees this summer that I intend to enlarge it next month. Borage will be added in large clumps.

During the sunny days of last week the many Michaelmas daisies were crowded with a merry throng of bees working apparently in a desperate hurry to gather all the pollen they could, while warmth and sunshine lasted.

In bringing long branches of the daisies into the house, I found bees still clinging to the flowers, concerned with nothing but the fixed determination to get food for the coming generation!

Most useful among late flowers are the scarlet runners and the homely marrow. I have also noticed the bees busy this week amongst gypsophilla elegans, godetia, mignonette, and the blue centauria, which the lovely September sunshine has brought into flower once more.

One of the greatest pleasures of garden work is to watch the stream of little foragers dart across the yew hedge into the golden sunlight all the working day; they have a message for us English men and women which none can deliver so beautifully, so fully. Those of us who have the precious insight into their ways and methods may well pause and consider. If we wish to continue to enjoy our national life as it was by our forerunners on this "tight little island" (may it be tighter!), we must buckle to and, like our little friends the bees, work not only for ourselves alone, but for those who come after us.—MURIEL JENKINS, Shrewsbury, September 14, 1919.

Kent Bee-keepers' Association.

SHOW AT ROCHESTER.

The Kent Bee-keepers' Association for the first time held a honey show at Rochester Guildhall on Saturday, September 13, which was of a high order of merit. It was largely attended, and amongst special features were short demonstrations and lectures, music played by the Gundulph Orchestra, and an excellent tea served by the ladies' committee. In the show itself an exhibit which aroused much comment was that of 143½ lbs. of honey, the product of one hive during the current season from the apiary of Mr. W. Carter, Rochester, who was given the Association's Award of Merit. The general arrangements for the show were successfully carried out by Dr. C. C. Lord (chairman), Mr. G. Bryden (hon. sec.), and Mr. R. G. Bryden (show secretary), while the judging in the competitions was done by Mr. W. Herrod-Hempsall.

Mr. H. M. Cobb, in opening the show, said he did so with a great deal of pleasure. What he liked about the Kent Beekeepers' Association was that every member worked well and none had any axes to grind. He wished the keepers and the show every possible success, and hoped that next year the show would be still further extended.

Leter in the afternoon an interesting presentation was made to Mr. G. W. Judge (Dartford), secretary of the Northern Division, in acknowledgment of his services.

Mr. A. Dewey (Wilmington), chairman of the Association, said the Association stood out in the country through the energy and influence of one man, and that was Mr. Judge. They were indebted to him more than words could tell, and on behalf of the members he had therefore much pleasure in presenting him with a case of Treasury notes for £20 as a small token of their esteem.

Dr. C. C. Lord, chairman of the Northern Division, said all the members recognised what they owed to Mr. Judge for the splendid position to which he had lifted the Association. He had literally worked morning, noon and night, and it gave them the greatest pleasure to thus honour him. In him they had an example of unselfish devotion to a cause. He had made their Association the premier amongst all the counties, but it was up to the members to keep it there.

Mr. G. Bryden (Rochester) and Mr. W. J. Prior (New Eltham) endorsed the sentiments expressed by the previous speakers, and added well-chosen wishes for Mr. Judge's success in the future.

Mr. Judge, in acknowledgment of the gift, said the enthusiasm and rapid increase in the number of members had led to the extension of the Association, and although he knew that such things needed motive power, they could not have been in their present position without the keenness and work of the members. There was yet much to be done, and he hoped that everyone was prepared to take a share.

Amid considerable enthusiasm the company rose and joined in singing "For he's a jolly good fellow," and in giving three cheers.

The list of prize winners is as follows:—

OPEN TO KENT.

Six Sections.—1 (presented by Mr. A. Dewey), Mrs. Culver Bruce (Swanley); 2, H. T. Parkes (Maidstone); 3, G. Bryden (Rochester); v.h.c., C. Bishop (Upchurch); h.c., H. Davies (Crayford).

Six jars light honey.—1, G. Bryden (Rochester); 2, L. W. Mattbews (Crackenhill); 3, W. Carter (Rochester); v.h.c., H. Davies (Crayford); h.c., H. E. Carter (Blackheath).

Six jars dark honey.—1, G. Bryden (Rochester); 2, A. J. Hills (Maidstone); 3, Miss Heale (Maidstone); v.h.c., H. Davies (Crayford).

OPEN TO MEMBERS OF THE NORTHERN DIVISION OF THE KENT BEE-KEEPERS' ASSOCIATION.

Three sections.—1, Mrs. Culver Bruce; 2, G. Cooper; 3, Mrs. Kenedy; v.h.c., E. Semper; h.c., H. E. Smith.

Three jars light honey.—1, G. Bryden; 2, Mrs. Culver Bruce; 3, W. Carter; v.h.c., F. Sykes; h.c., R. H. Miller.

Three jars medium honey.—1, C. Bishop; 2, G. Bryden; 3, R. H. Miller; v.h.c., F. Sykes; h.c., Mrs. Culver Bruce.

Three jars dark honey.—2 (only award), R. H. Miller.

Three jars granulated honey.—1, C. Bishop; 2, G. Bryden; 3, G. Allen; v.h.c., W. Carter; h.c., Miss Heale.

Six jars light honey.—1, G. Bryden; 2, C. Bishop; 3, W. Carter.

Six jars dark honey.—1, G. Bryden; 2, W. Carter.

Two shallow frames.—1, G. Bryden; 2, Mrs. Kenedy; 3, J. Reader; v.h.c., J. C. Whettam; h.c., F. Seager.

Display of honey, mead and wax.—1, G. Bryden.

One section (gift class).—1, G. Bryden; 2, Mrs. Kenedy; 3, G. Cooper; v.h.c., C. Bishop.

One jar of honey (gift class).—1, C. Bishop; 2, W. Carter; 3, A. Fry; v.h.c., Mrs. Kenedy; h.c., G. Allen.

Beeswax.—1, R. H. Miller; 2, G. Bryden; 3, W. Carter; v.h.c., Miss Butler; h.c., C. Bishop.

Cake sweetened with honey.—1, Mrs. R. Bryden; 2, Mrs. Bishop; 3, Mrs. Fry; v.h.c., Mrs. J. Bryden; h.c., Mrs. R. H. Miller.

Home-made hives.—1, C. Gee; 2, F. Seager.

Home-made appliances.—1, 2 and 3, R. H. Miller (Walderslade); h.c., F. Seager.

OPEN TO MEMBERS WHO HAVE NOT WON A PRIZE AT A PREVIOUS SHOW.

Three jars honey.—1, F. Sykes, 2, R. H. Miller; 3, J. C. Whettam; v.h.c., F. Seager; h.c., R. H. Miller.

Three sections.—1, H. E. Smith; 2, F. Seager; v.h.c., E. Semper.

The sale of the gift classes realised about £5. One section, given by Mr. G. Bryden, of Rochester, was knocked down to Mr. Wilson, of Barrow-in-Furness, at 25s.; and the second prize section, given by Mrs. Kenedy, of Gillingham, was bought by Mr. E. Armitage for 13s. A magnificent trophy of light honey staged by Mr. G. Bryden, of Rochester, called for special comment and was much admired.

A frame-building and section folding competition took place in the afternoon and created much interest, the awards

being:—1, Mr. G. Bryden (Rochester); 2, Mr. A. Fry (Gillingham); 3, Miss Burridge (Dartford). In the cake sweetened with honey class the competition was very keen. Special prizes were presented by the Ladies' Social Committee, and consisted of cake knife (first prize), cake fork (second), and Henry Spear (third). In Class 18 (home-made appliances), three exhibits by Mr. R. H. Miller (Walderslade) showed a fine example of workmanship and knowledge of the craft, and gained first, second and third prizes.—*Communicated.*

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Curious Behaviour of Bees.

[10003] I should like you to know of the very curious behaviour of my best stock of bees. The stock was a very large swarm that came into our town from nobody knew where, but happily I secured it, and though it was in July and, according to the axiom, "not worth a fly," yet it drew out and filled with comb, honey and brood, 10 shallow frames in a week. I then lifted them on 10 brood frames. These they drew out perfect, and, despite re-queening themselves, filled these 10 brood frames two-thirds full of honey for wintering, and gave me the 10 "shallows" full for extracting.

Now the curious behaviour is this. On September 15 I received a queen direct from Italy, with the idea of infusing some new blood in my bees. She arrived by the afternoon mail, and by 5 o'clock I had removed the queen from the stock to prepare them for introducing the new queen next morning. The introducing being done, they were covered up warmly and left quiet. To-day, September 23, being nice and warm, and bees flying well, I thought I would examine them quietly to see how they were going on, as I had seen the Italian workers that came with queen thrown out dead. You can judge my surprise to find on two of the centre combs no less than 13 sealed queen cells, and yet on the next comb was the queen depositing eggs. I am sure there were no queen cells started on the morning of introducing new queen, and I am at a loss to understand why, after finding a fertile queen in hive, they commenced to raise queens, with no drones present in hive, nor much honey coming in.

One gets curious behaviour with bees from time to time, as they "do nothing invariably," but this is the most curious that I have had. I should value your opinion.—R. Litman.

[We do not know why the bees should raise the cells. Our own experience with two colonies may appear even more curious. These were being re-queened with Italian queens. Their own queen was taken away and the cage containing the new queen put over the frames at one operation, so that the bees were not without the presence of a queen for more than five minutes; yet in each instance there were in one hive four, and in the other five, queen cells when the combs were examined about a week later, and both queens were laying well. There were no signs of queen cells when the caged queens were put on.—Eds.]

Frames.

[10004] Your remarks on this subject (September 11) are likely to lead to (or, perhaps I should say "ought to") a great improvement in our standard frame. Mr. Charlton has given us a good idea. To adopt such frames only means using a 2½-in. eke with existing standard brood boxes.

As regards using two boxes of shallow frames, it seems to me that it would lead to a good deal of bad apiculture. To lift off the top one to examine all frames in such a hive boiling over with bees would mean a lot more disturbance than to take out ten or twelve frames of double the depth one by one. It would also, or consequently, mean more trouble to the bee-keeper, and then, for want of time and other reasons, the poor bees would be neglected and apiculture would deteriorate accordingly. [We did not suggest two sets of shallow combs for a brood chamber.—Eds.]

Mr. Thomas (9991, September 11) has tried results with shallow frames, and has not found them successful.

Mr. Byer, a well-known Canadian bee-keeper, in *Gleanings* (November, 1917), stated that his bees in Langstroth hives needed additional food for winter, but those in Jumbo hives "were heavy enough without feeding." Both these frames are 17⅝ in. long, the Langstroth 9⅛ in. deep, and the Jumbo 11¼ in.

Mr. C. P. Dadant also prefers a frame 11¼ in. deep, but his are 18½ in. long, by

which he states he gets much better results than with the Langstroth.

Is it that the larger frames more nearly approximate to what the bees would do naturally, and especially such bees as Italians? Or is it that by inducing the bees to fill these larger and deeper frames their natural necessities are better provided for?

I do not suggest that our American friends are, as some will persist in saying, 50 years ahead in all matters apicultural. The W.B.C. tin end seems to be almost unknown there. In *Gleanings* for April 15, 1914, one bee-keeper stated he had discovered eight frames to be better than ten in the super for extracting, which does not seem to be much ahead of the Old Country.

Direction of Bee Flights.—Mr. Hemming (September 11) has come to the erroneous conclusion that bees always fly south for forage. I have proved time and again that they fly north as readily as south, if it's worth while. The same applies to east and west, or any other point of the compass. It is well to point out the error, or some may be led to shift their bees to the north of the nearest clover field next year.

Honey Crop.—Here, in the Tamar fruit district, bees did well in blossom time, but our main supply—*i.e.*, white clover—failed almost entirely. While formerly I have often averaged 2 cwt. per spring colony, and no necessity for autumn feeding, this year it may turn out at just over 1 cwt., and brood chambers well stocked for winter. I refer to extracted honey, of course. The honey this year came largely from an endless variety of cultivated flowers, shrubs and creepers, and latterly blackberry. One stock was busy comb-building when overhauled September 13, and the brood box, with bees, etc., weighing 42 lbs.—J. J. Liverton, S. Devon, September 15.

Puzzling Incidents.

[10005] The following incidents may be of interest to your readers:—I commenced bee-keeping last May, 1918, buying a swarm from a neighbouring village. This swarm was hived by the man who sold it to me in a home-made hive, of which the frames had no metal ends. The foundation sagged and all the combs became stuck together, thus effectually preventing any future examination. The colony wintered successfully. At the end of May this year it gave off a good swarm, which I hived in a new up-to-date hive.

Ten days later the old colony swarmed again, and continued to do so on five consecutive days. On each occasion I captured the queen and returned the swarm to the old hive. Now for the history of the new hive. On July 9 and 10 the bees swarmed—on the 10th we examined the brood frames and cut out nine queen cells. On July 24 they swarmed again. We hived this swarm separately in a box, as we thought the cause might possibly be congestion. Next day they swarmed again, so we examined the brood chamber. On this day we took out of the hive 25 live queens, some were still in the cells on the point of emerging and quite active, some were running on the brood combs, some were running in the two-section chambers. Not realising what a number we were going to take, we killed the first five. After that we put them in a tumbler. The local bee expert, Mr. Shepherd, took 19 away with him; these had been together in one tumbler while we were examining the hive and putting back the swarm. They did not fight or interfere with one another in any way. My bees are hybrid Italians, and abnormally good tempered. Mr. Shepherd informs me that on the previous day he was stung by a queen of someone else's hive while he was examining the hive. All this is somewhat confusing to a beginner, who has studied Maeterlinck and Mr. Cowans' "Bee-keepers' Guide Book," and has there read that the old queen will never tolerate a rival in her hive, nor will she use her sting against any but her own kind.—R. J. Tudway (Brig.-General).

Autumn Breeding.

HOW TO INCREASE YOUR BROOD FOR WINTER.

[10006] We so often hear the queen goes downwards and find the ends of the combs drone cells. It is quite easy to get the queen to work up, which I proved to a friend who said he never used an excluder.

When I found my 10 frames of combs were full of emerging brood I placed a large super on top, with seven brood frames of foundation without an excluder, which were soon drawn out and filled with honey. I took the uncapped combs out and extracted, leaving four in the centre. I slow-fed with honey on top of these frames, and about the middle of September I examined the four and found two combs one mass of brood, capped. I exchanged them for two empty combs in the brood nest, and extracted the others.

My friend was much surprised at the way the combs were filled. I told him the queen had a full run of warm combs, as the lower ones were cold and there were draughts at the ends. Now I had plenty of bees to winter. I fed them with the honey I had left, and had to feed with a small amount of sugar to help rear this brood so the stores were untouched.

If some people would not go honey mad,

and keep some for their bees, large stocks for winter would result. Rymer Boards or Meadow's Honey Boards over the frames gives passage for the queen in winter, so that she is not confined to one comb, resulting in a small lot of bees in the spring. —C. TREDCROFT.

Direction Bees Fly.

[10007] With reference to Mr. Hemming's article in the B.B.J., September 11, I should like to point out that in my opinion bees will fly in any direction so long as there is something to go after. I have seen my bees go north, if there is plenty of white clover that way. I should say the reason the borage was neglected was because they could find something better another way. This year my bees were flying eastwards for three weeks, and I find there was some sainfoin and clover they were going after.

It would appear some bee-keepers have done well and some the reverse. The following is a rough account of my year's working since being "demobbed" in March. I started with one good stock and one weak one. I bought one good swarm and three small ones, and with natural and artificial swarms have increased to twelve stocks for wintering. I have taken 6 cwt. of honey from seven of them; five did not get strong enough to give a surplus. I expect to do better next year.—A REGULAR READER.

Weather Report.

WESTBOURNE, August, 1919.

Rainfall, 2·69 in.	Frosty nights, 0.
Heaviest fall, ·73 in. on 27th.	Mean maximum, 72·4.
Rain fell on 11 days.	Mean minimum, 53·7.
Below average, ·03in.	Mean temperature, 63 1.
Maximum temperature, 84 on 10th and 13th.	Above average, 3·5
Minimum temperature, 41 on 30th.	Maximum barometer, 30·297 on 12th.
Minimum on grass, 36 on 30th.	Minimum barometer, 29·354 on 26th.

L. B. BIRKETT.

Will any bee-keeper who practices taking bees to the heather kindly give any information to the undersigned as to the hives he finds most suitable for travelling, say, a distance of about 50 miles, and the nearest to this place where a good quantity of heather grows, as I should like to make preparation for taking about half dozen stocks to same next year?—JOHN E. JAMES, Glan Apiary, Pontardulais, near Swansea.

Notices to Correspondents

W. HARRISON (Warwick).—*Keeping bees on infected ground.*—As bees have not since been kept on the site where others died of "I.O.W." disease four years ago, we should say it will be safe to use it again. It will be advisable to first sprinkle the ground thickly with quicklime, and, if possible, dig it over.

"NOVICE" (Wimborne).—*Bees in box hive.*—Better leave the bees in the box until spring. They will not work down on frames of comb until they have filled the box.

H. M. COOPER (Northants).—*Dealing with vicious bees.—Re* queen with an Italian. Hybrid bees are at times very vicious, whether Italian-Native, or Italian-Dutch.

N. M. M. (Northam).—*Wintering bees in two brood chambers.*—As the bees are so strong, better winter on the two chambers. You may remove two combs as you suggest, choosing those with least food. 50 lbs. of stores will be ample for wintering.

J. COOPER (Leytonstone).—The bees are native drones. If there are six combs full of stores they will have enough. Your letter is not clear on this point.

J. R. J. (London).—We are not quite certain what you mean by "double hives," but no doubt any appliance manufacturer would be able to supply you. See advts. for this and also for bees.

INQUIRER (Wales), J. HENDERSON (Birmingham).—*Bees dead under lime trees.*—This is not at all unusual. The nectar from lime and some other flowers sometimes appears to have a narcotic effect on both hive and wild bees. After taking it they become stupefied, fall to the ground, and die from cold and exposure during the night.

Honey Samples.

T. E. (N. Wales).—(1) The sample contains a proportion of honey dew. (2) "I.O.W." disease.

"FARMER" (Penistone).—The sample is spoiled by honey dew. It is not suitable for table honey. You might get about 6d. or 7d. per lb. for it for manufacturing purposes.

C. WADSWORTH (Barnsley).—Spoiled by honey dew. We do not think the occasional fumes from the manufacture of carbolic acid four miles away will have any effect on the bees. It should tend to keep away disease.

Suspected Disease.

F. S. G. (Wednesbury), N. H. LAMB (W. Hartlepool), M. E. W. (Milnthorpe), S. J. HIGHT (Leatherhead).—So far as we can tell the bees sent were healthy.

M. S. (Kendal).—There were symptoms of "I.O.W." disease.

X. Y. Z. (Northants).—The bees were affected with "I.O.W." disease.

T. J. (Pinner).—Bees are hybrid Italians. We do not find any disease.

A. BEARDMORE (Staffs.).—The bees have "I.O.W." disease. The sugar appears to be cane. There is no fee, thanks.

R. A. H. (Winteringham).—Sorry we don't know what is the cause.

Bee Shows to Come.

October 21 to 24, Dairy Show, Royal Agricultural Hall, London.—Particulars of the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1. **Entries closed.**

November 5 and 6, Honey Show at Cambridge in connection with the Eastern Counties Fruit Show. Open Classes.—Schedules, etc., from E. C. R. Holloway, The Rosery, Burwell, near Cambridge.

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under **the** *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE, surplus 1919 Hybrid Queens, bred from Penna strain, 7s. 6d. each.—3, Belgrave Villas, Nether Street, North Finchley, London, N.12. v.7

JOINER-MADE Second-hand Hives, two supers, £1; Nucleus Hive, 7s. 6d.; large Tin Feeders, 2s. 6d.; small Tin Feeders, 1s. 6d.; Dummies, 6d. Guaranteed healthy.—40, Woodfield Grove, Pairicroft. v.5

1919 QUEENS, two Italian, two Black, surplus, for Sale.—DAVIDSON, Forest Road, Burton-on-Trent. v.3

WANTED, healthy Driven Bees, 4 lbs.; no queen.—ALLIN, 174, Jockey Road, Sutton Coldfield. v.2

FOR SALE, Cottage Extractor, in perfect condition, 25s., carriage paid.—G. GARDINER, Whitelcaf, Princes Risboro', Bucks. v.1

FEW fertile Hybrid Queens to spare, bred June, 1919, 7s. 6d. each.—NELSON, West Farleigh, Maidstone. v.4

WHITE WYANDOTTES.—1919 Cockerels, bred from hens of 288, 282, 279 and 278-egg strains, sired by a Mrs. Cartwright's noted large-egg male, from 12s. 6d. each; few splendid 1918 Hens from 15s.—MISSES COATES, Broadheath, Presteigne. ru.89

COMPLETE APIARY for Sale through removal, comprising nine Hives, three strong Stocks, Hybrid Italians, ample standard Shallow Frames and Sections, 3 lbs. Foundation, 35 lbs. Candy, two Smoker's Gloves, Hat and Veil; in fact, everything for running an apiary. The lot for £30. No offers. —Full particulars from A. M. D. DE GROOT, ESQ., The Mansion, Sundridge Park, Bromley, Kent. u.91

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Annual subscription, 2s. 6d., post free. Send for a free specimen copy.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free. —F. RUMMING, 60, West Avenue, Oldfield Park, Bath. rv.6

WHEN the sainfoin blooms do real bee-keepers object to the intense yellow stain which then dyes the frames, quilts—the very wax in the combs? Ask them. Six packages Flavine, 6d.—SMITH, 30, Maid's Causeway, Cambridge. u.94

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

Books for Bee-keepers

NOW IN STOCK.

		Postage
A.B.C. and X.Y.Z. of Bee Culture (ROOTS)	13/-	... 9d.
A Modern Bee Farm (S. SIMMINS)	7/6	... 6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	... 1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	... 1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	... 3d.
Dissectible Model of Queen Bee	4/6	... 3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	... 1d.
Fifty Years Among the Bees (DR. MILLER)	5/-	... 5d.
Honey and Health (A. HOPE) ...	-/6	... 1d.
Honey Vinegar (REV. G. BANCKS)	-/2	... 1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	... 6d.
Langstroth's The Hive and The Honey Bee	7/6	... 6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	... 2d.
Productive Bee-Keeping (PELLET)	10/6	... 6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.) ...	2/-	... 3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	... 2d.
Scientific Queen Rearing (G. M. DOOLITTLE)	3/6	... 4d.
Snelgrove's Method of Re-Queening	-/6	... 1d.
The "Townsend" Bee Book ...	2/6	... 2d.
WAX CRAFT (T. W. COWAN) ...	2/-	... 2½d.
Wilke's Book on Swarming ...	1/-	... 1½d.

MISCELLANEOUS.

The Lore of the Honey Bee. By TICKNER EDWARDES. 2/-, postage 2d.

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

A B C AND X Y Z OF BEE CULTURE.

By A. I. and E. R. ROOT.

We have just received a number of the 1917 Edition. All Bee-keepers should possess a copy of this comprehensive work.

Price, post free, **13s. 9d.,**
from the BRITISH BEE JOURNAL Office, 23, Bedford Street, W.C.2.
(Sold by other houses at 15s. 9d.)

"READS LIKE A FAIRY TALE."

A number of readers have given expression to their delight in exactly the same words: "Your book reads like a Fairy Tale." Simmins' "A Modern Bee Farm" unfolds the Mysteries of Bee Culture and the correct Methods of Management in such a realistic and novel manner, the reader's attention is so rivetted upon the contents of the book that he likes not to put it down or leave it. Many tell how they have read it through and through, again and again, in some cases a dozen times or more; and always with a new interest.

The following are a few extracts from letters of delighted readers who have derived great pleasure and much profit from perusing this novel Fairy Tale.

A Reader's Opinion. What will yours be?

"'A Modern Bee Farm' stands absolutely by itself, as a work on bees." W. P. L.
Kettering.

Many Readers of this Opinion.

"I have kept bees for many years, and take every care I can, but I see I ought to have had your book 10 years ago."
R. F.
Cheltenham.

"Excelsior!"

"I have most of the leading works on bees (both English and American), and I have obtained more light and understanding from your book than from any other. It furnishes a grasp of the subject such as no other book does." A. R.
Sunningdale.

"Again Excelsior!"

"I have been reading every book (in English, French and German) on Apiculture, and of all the works that I have studied (especially as regards practical information) I much prefer your 'Modern Bee-Farm,' the style of which is so charming."
CLEMENT COKE.

Yet Again.

"I have read 'A Modern Bee Farm' through with much pleasure and profit. I think, without exaggeration, it is the best of all my many bee books." JOHN YOUNG.
Timaru, N.Z.

An Author's Appreciation.

"I should like to say how much I appreciate your book; it is far and away the very finest thing in practical bee literature.
OLIVER G. PIKE.

Worth £5 a Copy.

"My son and I are agreed that a 'Modern Bee Farm' is worth its weight in gold! I should certainly be sorry to take £5 for the copy I have if I knew it were impossible to obtain another." S. DEACON.
Cape of Good Hope.

Worth £10.

"I would gladly have given £10 to have had it a year ago, as it would have saved me more than that." H. L
Dorchester.

Best Investment.

"I have read your book this winter and think it the best investment I ever made."
G. W. W.
Marlow.

The Fairy Tale.—Wonderful Success.

"I have had wonderful success with your conqueror and the 'Modern Bee Farm' methods. I have followed all your advice in the 'M.B.F.' by faith; at first it read like a fairy tale, with perfect success in every particular, even to uniting without flour, or drowning with syrup." C. L. N. P.
Shalbourne.

An Enthusiast's Dream.

"I had heard of your system for years, but always thought of it as an 'Enthusiast's Dream' until the other day I visited an apiary and saw the Conqueror hives filled to overflowing with 'White Star' bees; then at a glance could see that for production of honey, for ease of management, etc., your system is A1."
AN EXPERIENCED BEE-KEEPER.

From Two Hives—600 lbs.

"Two hives yielded one swarm and 500 lbs. excellent honey; thanks to reading 'Modern Bee Farm.'" A. W.
Great Chishal, Herts.

Would Have Saved Time and Money.

"I have perused your most valuable book. I only wish I had known of it before, as it would have saved me much time and money."
C. E. H.
Sutton Coldfield.

Again Thanks to "M.B.F."

"Thanks to your 'Modern Bee Farm' honey is rolling in, and taking all my spare time; although many around here are doing little or nothing." J. B
Forfar

Why Follow the Old Ruts?

"I have seen nothing to equal its stimulating heterodoxy. With a fair field half Britain should have been 'Conquerors' by now." W. M.
Dundee

No Words can Describe it.

"'A Modern Bee Farm' is splendid; in fact, no words can describe it." J. S
Linlithgow

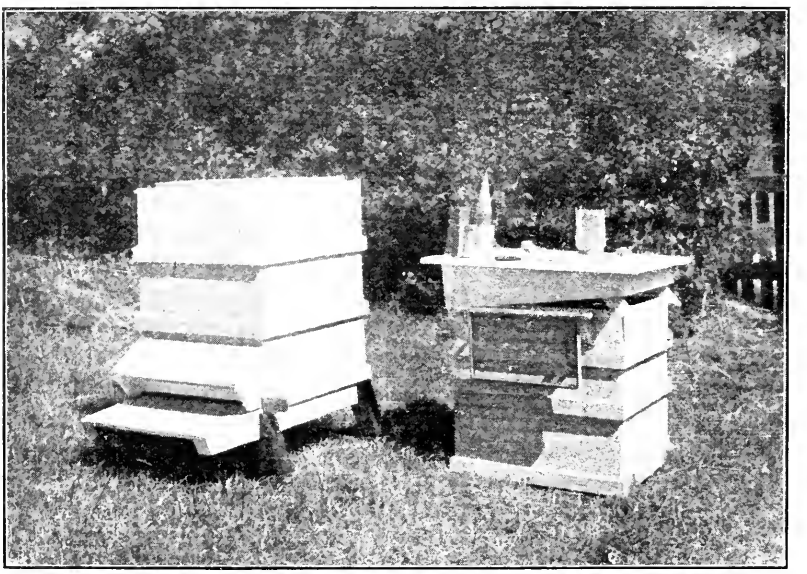
"A Modern Bee Farm and its Economic Management," nearly 500 pages, 7/6, of the Author: S. Simmins, Queenland, Heathfield, Sussex.

Winter your bees in good sound hives and so minimise the risk of losing them.

The Stevenson 200-lb. Skyscraper Hive (W.B.C. Type) will not only do this for you, but will also enable you to keep the bees next year on the most modern and scientific lines.

It has many advantages and does away with the inconveniences experienced in using ordinary h ves, thus saving time and labour and helping you to get the best possible results.

The materials and workmanship are of the best, and delivery can at present be given within a week of order. Order now so as to winter your bees in this hive and ensure a better harvest next year.



When put on top of two or three lifts, as shown above, the roof, by means of the legs pivotted inside it, forms a level table. This entirely does away with the necessity of carting a table about the apiary, or putting appliances on the ground where they are trodden on, or cannot be found when needed.

The roof can also be raised by these legs when on the hive, enabling extra ventilation to be given when required.

Send for full particu'ars and price to:—

The Croydon Aviation & Manufacturing Co.

LIMITED

45, Oxford St., HIGH WYCOMBE

The Strike and the B.B.J.

Owing to the strike, many of our readers were unable to get the Journal last week. We printed nearly the same number as usual, therefore those who have placed orders with their newsagents should now be able to get them. This week conditions will be as usual, and there will be no difficulty in getting papers.

A Dorset Yarn.

It was a pleasure to meet so many bee-keepers at the last meeting of the Royal Horticultural Society—they had brought up vegetables for exhibition—several of them from Herts. Their yarns of bees were most interesting; yields of honey were in most instances small, but the immunity of some from disease was real good to hear. One gentleman had kept the same strain of blacks for 30 years. They had never shown a mark till this season; they had never had disease in all that time. He is somewhat diffident now that they have been crossed. This speaks well for our native bees. Having a good many stocks, the fertilisation of queens need not necessarily be by a drone from the same hive in which she was raised, but it refutes the argument that foreign blood will keep them immune from disease. Mine seem to be alright and free from it now. I have purposely bought other stocks to ginger them up for the purpose of mating. It is remarkable how pure some of the Italians keep. A visitor (and a writer in the JOURNAL) from Datchet, near Windsor, said that one lot would pass for "Goldens." These so-called "Goldens" I had never seen, but he has always kept them. He offers me some next season. He had his holiday in the South, trying to purchase a small holding to "really live" the remainder of his life. He has borne his share of the great war; 27 pieces of shrapnel extracted from his person in hospital. I hope he will get somewhere near the Violet Farm. So many are prospecting for small farms, it will send up the price. If some syndicate would buy some of the farms of over a thousand acres of the best land and divide it up it would be a boon indeed. These large farms only reach by auction £12 or £14 per acre, where the small ones reach £70 per acre. Those of us who, like the Prime Minister, "want to see this country a fit place for heroes to live in," must be getting a move on, or the men will be tired of waiting and will be off to another clime to live out the rest of their days. Writers of other lands show that as bee-keepers there are great possibilities for them in lands of perpetual summer, like parts of Australia and New Zealand..

I was very much struck by one noted fruitgrower and raiser of many fine varieties of fruit, who, in appraising the only two new things that I had there, said that he every year had many seedlings on trial at a great cost in labour, and had so few really good breaks from other varieties, and the bee-keeper had them brought to his door. If those who keep bees were to save more seedlings of our fruits, there would be many more good crosses put on the market. It is a long time to wait until they develop, but the results are for the nation's benefit. Bees seem to cross the flowers by carrying the male parts to the female organs, and can so fertilise them without injury to the sensitive organ that carries the seed. Man, with all his care, is often far too rough in his methods of hybridising; the great good our stocks of bees do to the fruitgrower is proved each year one lives.

Our bees are still very active on the farm, but mostly on the long lines of rasps and perpetual strawberries. We find them on the large violets, but only in a few places; but when close to rasps all else seems to be left but them. The last taking of honey—that is, those supers that were put on in August, when going away from the farm for a time—is certainly the nicest flavour, and it does not readily run from the cells when sections are cut on the tea-table. The weather being somewhat colder would make it so, but that it is mostly heather gives it the density. There was a lot of charlock in flower at the time, but no sign of crystallisation is showing in this lot yet. We have som very fine shallow bars that have been filled since August, which we shall also use ourselves. A visitor who came to-day (Saturday, September 27) said he had successfully wintered bees in shallow bars, and for section honey they were the first to fill them in May and June, but, in my opinion, there could not be the great wealth of young workers that there are in standard frames of comb.—J. J. KETTLE.

[Mr. Kettle intended this yarn for our last issue, but owing to the railway trouble it did not reach us until Wednesday, when the JOURNAL was already being printed.—EDS.]

Jottings from Huntingdonshire

Disease is an evil, but evil does not always lead to greater evil, it frequently serving a good purpose by inspiring men to strive against it. This battle with disease brings forth new discoveries, develops the best in man, stimulates visions of a better future ahead. To overcome disease, it is necessary that it first exists. Physically, disease can be combated in at least three ways—by providing an antidote, by strengthening the constitution against it, by building up a system which will resist it. Some will say, and by inoculation; but, not to be too literal, this method can safely be placed under the second head.

In the past disease has served its purpose by thinning out weaklings, and allowing only the survival of the fittest. Modern science and medical skill have achieved wonders in late years in the world of discovery—so much so that many who a century ago would have found it impossible to live, to-day not only live, but are useful members of the community. There can be no victory without an antagonist, and the sweets of triumph over evil are therefore only to be enjoyed as a result of the existence of evil. Evil cannot be good, but its existence brings out the good, and better, and the best in us. Someone will be saying, Why this sermonette? Have I forgotten that I am not in the pulpit, but writing to the British Bee Journal? Not a bit of it. I want to set the minds of bee-keepers thinking. Summer Time is over for this year, and we have to settle down to the long nights of autumn and winter, and I should be glad to know that some people were thinking—not furiously, but hard—about *microsporidiosis*, *Nosema apis*, or "Isle of Wight" disease, dysentery, paralysis, foul brood, sour brood, May pest—everything that can be placed under the category "Diseases of Bees." What good do they serve? Of course, we shall say: No disease is incurable, if only we know how, and it is the presence of disease which enforces us to bestir ourselves as to the remedy, etc., etc. That is a schoolboy's answer, or, at least, an answer of a schoolboy calibre. Let us go further and deeper than this. Is it possible to so arrest and control disease as to turn it to good account for the would-be sufferers? Supposing our bees catch the "Isle of Wight" disease in its first stage; can we not only arrest it, but turn it from an enemy to a friend, so much so that the healed bees will work all the harder and better for having sickened and recovered? I know the life of a working bee is so short that while one is experimenting with sickly bees one may be neglecting their healthy sisters, with the ultimate result—well, something synonymous to fiddling while London's burning. Battling with bee diseases may, and no doubt will, result in the building up of strains that are not only resistant, but immune. How is it to be done? Think it over. Later on, unless the Editors throw the metaphorical brick at me in the meantime, I will return to the subject. Meanwhile, realise that it has been computed that the United Kingdom could maintain as many bees as would produce twelve million pounds of honey, and at least two and a half million pounds of wax. How are we going to get half, or quarter, of this nectar and floor polish whilst "Isle of Wight" disease is raging about?

Now I pass on to a lighter topic. The late Mr. Howard, of Holme, built up in his day a capital strain of hybrid bees which were and are known as the "Holmewood" strain. I happen to know of the existence of a few stocks of these excellent workers, but while they are successfully resisting diseases so far, in-breeding is going on, and this will inevitably weaken the strain. I am therefore craving the Editor's permission to ask, through the medium of these jottings, that anyone having a stock or stocks of the "Holmewood" bee write to me, I on my part being willing to arrange exchange of queens, or, in the case where any stock is showing some loss of vitality, to arrange that strong, healthy, fertile queens be introduced, to save both the stock and the strain. I have quite recently visited two small apiaries strong in "Holmewoods"—one in this county, the other in Northamptonshire. They are excellent honey gatherers, and past-mistresses in the art of sealing, and a bee well worth having in the single skep of the cottage garden or the larger apiary of the mansion.

Hereabouts there are acres of charlock in bloom, and the bees will not let it alone—at least, the Italians won't. The Dutch are now paying attention to the ivy. The honey season has been chequered. Next year, if the bees prognosticate truly, we shall have a fairly early spring and a tip-top honey year. Let us make every preparation ere the vernal equinox appears.—E. F. Hemming, Steeple Gidding, Peterborough.

Jottings.

Way-room of Excluders (p. 351).—With most improvements, it is often a hard matter to overcome all difficulties, as our Editor suggests, this instance may have been through small queens, but a slight

damage due to careless haste in the peeling off the excluder will sometimes detract from the efficiency of these useful appliances. A few years ago I had a case in which the queen was injured. A wire of a "Wilkes" had bent slightly. Again with Mr. Taylor's latest. While gaining fully the easier access he claims, so much strength is taken away, the general utility of the old "B.B.J." pattern is about equal for reliability. Less risk of bent parts is managed by placing the passage the same way as frames, and peeling with a firm grip in the centre.

Frames (p. 356).—At the risk of being thought conservative, and even this is not a bad quality, if one is satisfied with the article to be preserved; while if it is generally adopted, through efficiency, one might easily be accused of being eccentric if wanting something different. But as this may be opening a wider point of view than was intended, and if there are a few people who do not mind the inconvenience of something of a less standard pattern, by all means let them indulge their particular fancies.

To examine some of the points, or disadvantages shown. Whether standard or not, it is an advantage that forces itself, to have external sizes alike. Depths do not so much matter; in a well-ordered apiary one needs both, as oftentimes a shallow lift can be used, when it would be folly to use a deep one, or the reverse with a prolific queen. I fail to see that a large frame brood chamber is always a guarantee of its adequacy in all cases, but an adjustable chamber up to eleven combs contracted, *at the flow* to ten, the major part of which are new, by a lifting-up principle, gives splendid results, and if managed right the bees are kept in one hive, and honey is stored as the old brood emerges. Now I think the shallow frame very convenient, as it gives a nice surplus addition without an expanse of cold space. It can be used to afford a slight egg-receiving chamber, if needed; short snaps are frequently made easy in the fruit season, which would be otherwise impossible.

If one is able to make hives themselves, one's own standard is sufficient; but most of us are only too glad to be able to get a frame that can be sent to anywhere, and inconvenience nobody, as there comes a time when one must have dealings with someone else, otherwise I see your correspondents' methods are about the same.

15½-in. v. 17-in. Top Bar.—The writer on hives, previous page, aptly disposes of this waste timber accusation, by the extra comfort in manipulation, to say nothing of the necessary climatic change, protection, which is needed quite as much in summer as winter, and is made more uniform by a liberal provision between outer and inner walls. But as your correspondent uses "W.B.C." hives, I fail to see that the present size of top bar wastes wood to any extent in the lift or chambers, as I take it he means.

Standard v. Shallow (p. 365).—The chief objections seem to far outweigh the very doubtful advantage as shown by this "experiment." Of course, the bees will take to them, if no other provision is made. I have only had one breakdown in 25 years, and this through extreme heat. If these are easier to handle there must be at least a third more to do, which takes as much longer to finish; but most serious might be the consequences in winter, as there is not room for stores and brood at this time, and one might expect to find a very late and extremely weak colony in spring, if they manage to survive a really hard spell.—A. H. Hamshar.

Frames.

Mr. F. B. Charlton (9989 September 11) misrepresents the issue somewhat. Advocates of a larger frame do not exactly wish "to lengthen the standard frame," nor "bring one into use to partly replace it."

There is a gradually increasing demand for the 16 by 10 frame, caused without any doubt by its being already in use and obtainable from manufacturers; the initiative being prompted by first hand evidence from fellow bee-keepers who use the frame and have much to record in its favour. It is fairer, therefore, to state the case in accordance with fact, viz., that two sizes of frames are in use, of which one is the Standard 14 by 8½ most generally in use; the other, the 16 by 10 whose adherents are wide-awake apiarists whose numbers are gathering strength quietly but surely.

This recognition of the 16 by 10 frame is therefore established fact, a detail which will demand acknowledgment. The position is not unlike the native black *versus* the yellow foreigners for British bee-keeping. Progressive workers do not wait for a lead which may, or may not come, can weigh and balance important matters for themselves; leaders rather than followers because facts to them get due appreciation It is not improbable, indeed I feel it is certain, the suitability of the 16 by 10 frame for the changed conditions now permeating the industry, will assert itself and confound those who, while lamenting varieties in hives and appliances and the lack of standardisation for uniformity and convenience, would add

to the medley still another new size in respect of frames, the while a first-class alternative size is already established, in use, and strengthening its position only because it is proving itself worthy. The only fault I can see in the 16 by 10 frame is that it arrived before its day, a tribute if you will to the foresight of its author. The arrival of the Italian bee in strength puts the seal of general suitability upon the frame for up-to-date bee-keeping. Upon out-of-date bee-keeping no words need be wasted.

The proposal of Mr. Charlton for a 12-in. brood chamber might have been extended to show how timber of that size is going to be obtained. It is very difficult now to obtain 11 ins. even from which to make the 10½ ins. chamber of the 16 by 10 frame, and to be sure of the position I have queried my timber suppliers for an authoritative statement on the point. Here it is, and incidentally it may reveal to the fraternity some of the difficulties in the way of supply of suitable and good quality material generally.

"Prime joinery wood, such as you require, is still exceedingly scarce, dear, and in the trade cannot be obtained unless purchased with large quantities of common quality stuff. With regard to the proposed increased width (12 ins.), there are practically no 12 ins. or wider foreign deal *boards* imported, and only a very few deals, and these are chiefly 4 ins. thick, with centres in most of them, and only a very small proportion would be suitable for your requirements. We could not undertake an order for widths over 11 ins., *and at the present time we have nothing in stock wider than 9 ins.*"

The italics in the last sentence are mine, and show that for the 16 by 10 chamber we must go slow, let alone think of putting up a still deeper chamber. Jointed chambers can be made, of course, a makeshift, but put no faith in them.

As to using two 6 ins. chambers tiered, for 11½ ins. deep combs, sooner or later it will be found necessary to find more permanent accommodation for such frames, as beehive frames are the most awkward fish out of water within my knowledge. In any case, the method would call for a very generous supply of new 6 ins. supers.

In the matter of expense in the change from Standard to 16 by 10, only a brood chamber for each hive is called for, where the W.B.C. is the type of hive, and as for the single-walled hive, it will attach itself to the gathering of freaks at the moors as one of them, though in its own way we can credit it with good service in its day.

It might be said I have an axe to grind, and I will assure critics in advance that were the 16 by 10, or any other frame besides the 14 by 8½ ins. standardised it would put me to very heavy expense here, all equipment for business purposes being for standard 14 by 8½ ins. frames. Experimental work is another matter, as also is constructional work for clients. But in respect of the working plant of my apiary, the futility of opposing anything which points to the welfare and progress of bee-keeping is sufficiently apparent to me even if I found myself under the necessity of scrapping the lot. Necessities indicated by experience and observation are opponents too strong for any of us in the end.—M. Atkinson, The Bee Park, Fakenham.

Altrincham Show.

The Altrincham Agricultural Society held their annual show at Altrincham on Wednesday, September 24. Although the entries in the honey section were below the average in number, the quality, in many instances, was of a high standard. Mr. E. W. Franklin, Mouldsworth, Chester, acted as judge, and made the following awards:—

Observatory Hive, with Bees and Queen, each Comb to be visible on both sides.—1, B. T. Abell, Blythe Bridge; 2, Bowdon Parish Church School; 3, F. Clarke, Mobberley.

Twelve Jars Run or Extracted Honey, gathered in 1919, approximate weight 12 lb.—1, A. Jackson, Thetford; 2, W. S. Holford, West Wratting, Cambs.; 3, W. E. Waines, Gatley; r., Fred Richardson, Ely.

A Gift Class of One Jar of Honey. No entrance fee. The exhibits to be given to the Altrincham Hospital.—1, John Boden, Barnton; 2, B. O. Rayson, Brooklands; 3, B. T. Abell; r., W. E. Waines.

Twelve Jars of Run or Extracted Honey, gathered in 1919, approximate weight 12 lbs.—F. S. Ireland, Bramhall.

Not less than 1 lb. of Bees Wax, produced by Exhibitor's own Bees, quality and "get-up" to be considered.—1, John Boden; 2, T. Alun Jones, Flintshire; 3, F. Clarke.

Six Jars of Run or Extracted Honey, approximate weight 6 lb., the property of a Cottager, not to be exhibited in fancy cases.—1, T. Alun Jones; 2, F. Clarke; 3, John Boden.

Six Jars of Run or Extracted Honey (Dark), approximate weight 6 lb., gathered in 1919.—1, F. Clarke; 2, B. O. Rayson.

Six Sections of Comb Honey, approximate weight 6 lb., gathered in 1919, not to be exhibited in fancy cases.—1, B. O. Rayson.

Mr. F. S. Ireland won the silver spoon

given by the Cheshire Bee-Keepers' Association, and Mr. T. Alun Jones the electro-plated one.

Two demonstrations were given in the bee tent during the day to large audiences, and a considerable number of bee-keepers and others took the opportunity of asking questions so as to get difficulties cleared up. Altrincham show may well be declared the largest one-day show in the British Isles. We believe that the crowds we get around the bee tent surpass anything seen elsewhere, not even excepting the "Royal." This year, all records were broken in gate receipts, over 35,000 persons passed the turnstiles.—*Communicated.*

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

The "Hardy Annual"—Another "Frame" of Mind.

[10008] I have read with interest the pros and cons on the subject of larger British standard frames.

Apparently all are not agreed as to the necessity of a larger frame, and you, Mr. Editor, whilst expressing opinion that if any alteration is made in the size of the frame it should be in depth only, appear to "put the cap on it" by your concluding statement that, "so far as we are concerned, we are well satisfied with the present standard frame" (Editorial, September 11, 1919). I venture to submit that the subject, being a "hardy annual," points to the fact that a large number of apiarists in Great Britain are not well satisfied with the capacity of the British standard frame.

I am of opinion that, whilst this controversy is permitted to proceed, each individual expounding his or her particular views, the bee-keeping fraternity will gain no good ground.

It appears to me important to thrash this matter out *now*, and to come to a definite decision. When the British standard frame was evolved, the B.B.K.A. blessed us with a good standard which has served the purpose well for years; but has not the time arrived when the standard is a handicap to many a progressive apiarist?

Knowing the unbiased spirit in which you publish the views of all correspondents, I venture to be so bold as to suggest that the space in the B.B.J. should be used to better purposes than the publicity of individual proposals on a subject of such paramount importance, and I cannot help thinking that the best way to settle the matter is to appoint a representative and competent council of apiarists and manufacturers of appliances under the auspices of the B.B.K.A. to go thoroughly into the matter and report through the medium of the B.B.J.

I, like many others, am very keen to express views on the subject; but, for the reason just stated, and knowing full well that bees, locality, flora, climatic conditions, and the prospect of metal combs, etc., are important factors, I hesitate.

Let us have an organised effort for progress and save valuable JOURNAL space, time, and individual effort.—W. H. J. PRIOR.

Native v. Foreign Bees.

[10009] Amidst the glamour of praise that we hear these days *re* imported disease-resisting strains of bees, one feels inclined to say a word in favour of our own native bee. Perhaps the following experience will do a little towards restoring the prestige of our much-despised native. Last year I captured a stray swarm of bees that had settled on a bush in a neighbouring schoolyard. They were brought home and hived the same evening in a clean hive that had been newly washed out with Izal. The following midday the bees absconded, and in spite of all efforts insisted on settling underneath the porch of another hive that was housing a stock suffering from "I.O.W." disease, and into which they eventually entered. Contrary to my expectation, the crawling ceased, and, strange to say, this is my only surviving stock out of seven that went into winter quarters. The six stocks that went under with disease were Dutch. Now, not having kept native bees before, I was a little doubtful as to their appearance, so sent a sample up to THE BRITISH BEE JOURNAL office for inspection *re* variety and health. The answer was in the "Notices to Correspondents" column stating that they were natives, and to all appearance healthy. They seem to be excellent honey gatherers, and are so far doing well: in fact, at the beginning of August they were working in their third super. Seeing that some bee-keepers would have us believe our native bee has

such poor disease-resisting qualities I am at a loss to know why these bees did not contract the disease. Is it not possible that it was owing to the hive being newly washed out with Izal caused the newly-hived swarm to abscond, and yet some bee books tell us that bees raise no objection to Izal.—P. LYTHGOE, Padgate, Lancs.

[The hive should have been exposed to the air before a swarm was put in. Swarms are often likely to be unsettled, and will most likely abscond from a hive smelling of disinfectant or antiseptics of any kind.—EDS.]

Lock and Key.

[10010] I sent 12 bottles of honey to a show in the North, and when returning to me four bottles were taken out of the box. May I suggest that the B.B.K.A. sell one pattern of lock, and every secretary of a show where there are classes for honey shall have a key, so that they can unlock and lock the boxes fitted with the B.B.K.A. locks.—A. E. WARREN.

[We are afraid even this would not altogether prevent honey from being stolen, even the scheme was practicable. —EDS.]

Frames.

[10011] Yes, I certainly awarded you a walk over in paragraph 3 (9999). I hereby ask pardon for the error. What you said was the British Standard has justified its dimensions, etc. Well, Sir, can you advance any argument to substantiate this? Some of us think it has not. Myself I think its the laughing stock of the world's bee-keepers, but then I can see all its faults and no virtues.

Will you say, Sir, if you have given the two sizes of frames a fair trial side by side in your apiary with Italian or Hybrids of a good strain? If you have done this for two years your opinion assumes a very important aspect. If you have not, well we will wait till you have.

The last paragraph. Being partly Irish perhaps I may venture to ask yet another. If you have two sets of combs on a hive with the queen breeding in both equally in summer, the centre of the brood-nest is about centrally over the division between the two sets of frames. Normally, a queen contracts her brood-nest from the outside—gradually reducing it in size towards the centre—at least I always thought so. Why is it, then, that where the brood-nest spreads over two sets of combs the queen *always finishes entirely on one set?* You say the 1-in. (about) space through the brood-nest has not the slightest effect. I was surprised at that statement. To me it seems so very obvious that one large comb is better than two shallow ones for breeding, that it's like trying to find an argument to prove that grass is green.

Sir, I think I said before neither I nor my friends who think with me wish to persuade anyone to give up the Standard frame. There are a good many, however —a great many—I may safely say, who are quite satisfied that the little Standard is no use to them, and all I am trying to do is to bring all bee-keepers who think this way together.

I have plans out of two hives for 16 by 10 frames, and supers 16 by 5, and I am going to make them this year. One will be a single-walled hive after the manner of Root's hive, but better adapted for our wet winters; the other is similar, but on the W.B.C. system. These two will be quite square and interchangeable. I will get them made soon and photographed, and will send copies to anyone really interested. I hope all will understand that I am not trying to get anything out of this. It means loss of money and hard work to me, and I should appreciate a little interest.

It is easy to pick holes, but not so easy to mend them; and now for the deep combs 14 in. wide. The deep comb mentioned by you, Mr. Editor (14 by 11) has these faults. For tiering it would be apt to run too high for its width, and become top-heavy. In my judgment you want a fairly wide base. This frame would be very like the "Adair," which was discarded in America for the reason above. I think myself it was a pity Mr. Simmins did not start the Langstroth frame instead of 16 by 10; however, as the latter is in use all over the country, I think one may as well keep to it.

Another great fault in a comb 11 in. or 11½ in. deep would be the great difficulty of getting wide enough timber. The 16 by 10 boxes can be made of 11-in. stuff which is fairly readily attainable, but wider stuff is both more difficult to get and more expensive.

The 16 by 10 will accommodate more brood, *with a fair amount of stores in the right place*, i.e., along the top and at corners. The "square" frame would be apt to be all brood, or, on the other hand, to be too full of honey. This sounds contradictory, I know, but I have found that bees when storing in supers are apt to store nothing at all in the brood combs, but if they do start storing below they often overdo it. I do not wish to pick this idea to pieces for the sake of doing it, but only to state what I feel sure are its faults, and where in my opinion the wider,

large frame will beat it. I feel that we ought not to spoil the future by compromising. When improvements come in it is always rough on those who are loaded with old stock.

I'm sorry for making a mis-statement in that third paragraph. But you know, Sir, what you say carries weight, and I thought it was unnecessary for you to put that editorial as you did. It was calculated to do as much damage to the advance of the large frame as possible without advancing one real argument in favour of the other. I hope you will give us your experiences of the 16 by 10 alongside the other with Italian or Hybrids of a good strain if you have tried them.—R. B. MANLEY, September 18, 1919.

P.S.—The deep comb, 14 by 11, would have several other serious faults, but time is short and the "B.B.J." is small.

[We see nothing in Mr. Manley's letters to cause us to alter our opinion that the Standard frame dimensions have been justified. No argument of ours is needed to substantiate that statement. Its almost universal use in this country for nearly 40 years is argument enough. True, everyone has not been satisfied with it, neither would they had any other size been adopted. It will be utterly impossible, even for Mr. Manley, or other supporters of the idea of a larger frame to fix on dimensions that will suit everyone. We know at least one bee-keeper who had over 20 hives, and thought the Standard frame too large. He therefore made and used a smaller frame.

The last sentence in the first paragraph may possibly explain Mr. Manley's attitude with regard to the Standard frame. We prefer to keep our eyes open to virtues, as well as faults, on both sides.

We have not tried the two sizes in our own apiary, but in the course of some years as touring expert in various counties we have had opportunities of handling and comparing various sizes of frames; and though quite ready to admit that in some circumstances a larger frame may have advantages, they are not such as to give us any wish to change.

Re space between upper and lower frames of combs when using two sets for the brood-chamber. Mr. Manley again misquotes us. We never said the "space through the brood-nest has not the *slightest effect*." The italics are ours. We still adhere to the statement *as printed in our editorial* on page 393 of the JOURNAL dated September 11. When the brood-nest is contracted towards the close of this season we should expect the queen generally to finish on one set of combs, but we fail to see any disadvantage in that.

For the rest of Mr. Manley's letter it would be possible to traverse several other statements, but time and space forbid. We have no desire to damage the advance of a larger frame, if it can be proved necessary. *If* the B.B.K.A. should alter the standard size—and that "if" is larger than we have printed it—or if an alternative size should be adopted by any number of bee-keepers, that size should be one that will be suitable for all parts of the country, and should as far as possible work in with the present Standard size. It does not follow that because one or two, or even one or two hundred, bee-keepers are dissatisfied with the present standard, or find a different size more advantageous to them, that an alteration in the standard for the whole of the country would be advisable. It must be borne in mind that there is often a great difference between making a *change* and making an *improvement*.—EDS.]

"Isle of Wight" Disease.

[10012] In the counties of Inverness, Banff and Elgin, where I spent my holidays visiting bee-keepers, I found that a good many stocks of bees have succumbed to this disease. So far as I know, however, it has never carried off a whole apiary of more than one or two stocks, nor has it swept rapidly from one apiary to another, whereas a few years ago it often destroyed every colony a man had, and even quite cleared out whole districts.

The disease is evidently losing some of its dreaded virulence, whether by some cyclical change in the disease itself or by bees becoming more resistant. Now, this latter course would operate chiefly where the disease had passed and repassed, but as it is clearly much less deadly in districts which it reaches for the first time, we can hope there is some sort of attenuation of the virus of this plague.

The etiology of the disease remains undiscovered as yet. No organism has been found as its cause, only it is certain that it is not *Nosema apis*. The Scottish investigators of the disease, the bee lecturers at our three agricultural colleges, Dr. Rennie (of Aberdeen), and others assure us that the very elusive infection is carried by neither honey, frames nor infected hives, nor by bees dead of the disease nor even by the living brood which was reared and fed by stocks which have succumbed, but apparently only by direct contact with diseased and dying bees. Individual bees once attacked never recover. These facts are of the greatest importance if fully substantiated, and prove that Mr. Bartlett's most drastic and thorough-going scheme is quite unnecessary. "Isle of

Wight" disease is perfectly unlike foul brood, the spores of which are so very difficult to kill, and the diseases are to be fought in different ways.

I suggest that so soon as a hive is known to have the disease the bees be chloroformed if there be brood, that the latter be taken out and given to a healthy hive, and all the rest be killed off. Dr. Rennie, of Aberdeen, is anxious for queens from infected hives, and is willing at times to pay for them. There is certainly no harm in disinfecting the hive and frames, but it is not essential. Many bee-keepers know of stray swarms that have taken to hives where the dead lay thickly from "Isle of Wight" disease. Yet these latter have been cleared out and the swarm has prospered, and remained uninfected, but above all things prevent robbing from colonies where there are living bees. Hoping that the cause may soon be discovered.—JOHN W. MOIR, hon. treasurer, Scottish Bee-keepers' Association.

Definition of "Cupful" in American Recipes.

[10013] American recipes using honey have appeared in your Journal from time to time, the quantity of honey or other materials to be used being measured in "cups." The question has been asked, "What is a cup?" In English a cupful of anything is a variable quantity depending on whether a tea cup or a breakfast cup is used as a measure. This is not so in the United States of America. A cupful is a definite quantity—I was almost writing a standard quantity—but I am not sure that it is legalised. A cup contains 8 fluid ounces, and is half an American pint of 16 fluid ounces. As most of your readers are doubtless aware, an English pint contains 20 fluid ounces. To those who have a measuring glass no further difficulty will present itself in getting a "cup" of honey; to those who have not I would suggest the following:—A gallon of water (cold) for all practical purposes weighs 10 lbs. Therefore, a pint of water weighs a pound and a quarter, that is 20 ounces (avoirdupois), so that a fluid ounce of water weighs an ounce. Get a honey jar (or glass jam jar), weigh it, pour water in until the weight is increased by 8 ounces, stand on the table and on a piece of stamp paper stuck at opposite sides mark the position of the surface of the liquid. The jar filled to the marks will give a cup. I may point out that a fluid ounce of water only weighs an ounce. A fluid ounce of honey weighs more. Honey being of greater density (thickness) the weight of any volume is more than the weight of an equal volume of water. How much greater cannot be stated, as honey varies in density.—J. A. H.

Bee-Keepers' Associations and our English Climate.

[10014] It is easy to find fault with our English climate. No doubt it is one of the most uncertain in the world, but is it so prejudicial to profitable bee-keeping as Mr. Manley would make out? Other countries have years in which no surplus honey is gathered, and bees have to be heavily fed (see Root's "A. B. C." article "Out-Apiaries"), yet bee-keeping there is considered a profitable business. If it be replied that the bad seasons are less frequent and the good ones better than here, then I will answer that I have met bee-men in this country who, if they do not possess very large apiaries, certainly do not keep bees merely for amusement, and who consider they pay very well. Now if bees can be made to pay in England on a small scale, why not on a large one? I have never been able to find the flaw in Mr. W. Z. Hutchinson's argument in favour of keeping "more bees." If there is one, will someone kindly point it out. Either, he says, it does not pay to keep bees at all, or if it does, then it pays to keep more bees. The very uncertainty of the seasons makes it desirable to have so many stocks that a sufficient return is secured in good years to tide the bee-keeper over the bad ones.

I know little of other countries, but if their weather is more to be depended on, may they not have corresponding drawbacks, cheaper market value of honey, for instance?

Granted our climate leaves much to be desired, does not this very fact call for greater exertion on our part, more intelligent management, more up-to-date methods? We need to employ every means in our power to make the most of the little favourable weather we do get. And yet, as Mr. Manley observes, how much ignorant and haphazard bee-keeping there is all round us.

The B.K.A.'s must help us. Their policy needs revising. It was natural their original aim should be to induce the cottager to discard the skep and sulphur-pit for better methods. This has not been very successful. The cottage bee-keeper has tended to disappear, and his place has been taken by a different type of apiarist. The old ideal of a hive in every cottage garden is unworkable and undesirable. B.K.A.'s should concentrate their efforts more on educating existing members of the craft, like other kindred societies, and

less on persuading all and sundry to *keep* (?) bees.

I have helped a number of people to start bee-keeping, but experience teaches me that many take up bees who ought never to do so.

My ideal is not fewer bee-keepers, but every bee-keeper a bee-master.

The best way to attain this ideal appears to me to be by local bee clubs, so arranged that it would be possible for the members to meet frequently to exchange views, and to receive instruction in the higher branches of the craft from a competent expert, who, if he was not to be found in the vicinity, could be engaged from a distance, probably at no greater expense than the touring expert, who, if he saves the ignorant or incompetent bee-keepers' stocks from starvation, is not in a position to do much for the higher aspects of bee culture.

What we most need at present is a determined effort to stamp out disease, and encouragement and help towards breeding a better strain of bees. The two most obvious defects are excessive swarming and breeding out of season. Dutch bees possess both these bad qualities, and their introduction has done much harm. Mr. Manley's troubles appear to be partly due to these causes. I wonder what amount of Dutch blood there is in his bees? Prolific breeders are nothing but a nuisance if they go on producing thousands of young bees during long periods of wet weather or quite late in the season only to eat up the stores in the hive when they can least be spared. The swarming tendency also frequently converts a poor season into a honeyless one, or a good year into one that is merely fair. I am convinced that the strain of bee has much more to do with undesirable swarming than the weather, as Mr. Manley appears to think.—L. ILLINGWORTH.

Eliminating "Isle of Wight" Disease and Hatching the Brood in a Chicken-Brooder.

[10015] I have made a practice of reading every letter in the *B.B.J.* on the "Isle of Wight" disease in the hope of finding a clue or inspiration that would lead to a plan of eradicating the disease.

At last, at the end of a long epistle, a writer asserted that he believed the disease affected the adult bees only. Taking this to suggest that the brood was not diseased, I "pasted the formula in my hat," partly because I hoped it was true. I argued: In the case of Foul Brood the brood only was diseased; then why should we not conclude that in the case of "I.O.W." disease the bees only were diseased?

Shortly after arriving at this most comforting belief came the articles by Dr. Abushády and his presentation of ideas both new and old. I was particularly interested in his suggestions of artificial heating and his "brood-hatching chamber." My plan matured at a flash. I would destroy the bees in a diseased stock and hatch the brood in a chicken-brooder.

This scheme was elaborated and explained to the general meeting of the Durham B.K.A. at Bishop Auckland in March last. I then suggested destroying the queen as well as the bees, and giving a ripe queen cell or a new queen to the brood in the chicken-brooder!

During the clover season I had a case of "I.O.W." disease in my apiary, but had no proper means of hatching the brood. I experimented on top of the oven in the kitchen, but the heat got too high and the brood was eventually "pickled."

As luck would have it, one of my neighbours, Miss Brown, had a very decided case of "I.O.W." disease, and as she is running a poultry farm there has been afforded an opportunity of putting the chicken-brooder experiment to a practical test. To be brief, the brood has hatched in a very gratifying manner. The queen was not destroyed, but run on to the brood combs after every bee had been shaken off: and although the queen would be alone for a few minutes at the start, she was alive and in good trim among the newly-hatched bees a week after. The temperature was kept by Miss Brown at about 90 deg. during the first week, ending September 12. Since the latter date she has kept the heat at about 80 deg. On the 13th the bees were brought out and given their first flight, which they enjoyed with great zest. Since the 13th the hive has been lifted out of the brooder in the day to allow the bees a flight, and put back again in the evening. This extra care is bestowed on them because, owing to the lateness of the season, the patches of brood were not large, and the resulting stock is not as strong as one could wish; but strong enough it is hoped to get through the winter.

It will be seen that the stock now contains a new generation of bees that have never had contact with diseased bees, and it is hoped that this break will give the colony a fresh start quite clear of the disease. The exception is the queen. If there is any risk of the queen conveying the disease I think it is worth the risk if there is no other queen available. I would rather retain the queen than depend upon a ripe queen cell. The idea of the retention of the queen I got from a perusal of Dr. Rennie's last report, sent

to me in June, which suggests that the queen does not convey the disease when transferred from a diseased stock.

Let me say I am not using disinfectants in any way whatever in this experiment, as I do not wish to have any confusion as to whether the success, if any, is due to disinfectants or not.—J. N. KIDD.

Combs from Other Hives.

Bee-keeping as a Side Line.

GRACE ALLEN.

Last month we met the nice friendly wife of a pleasant ex-sideliner, and she spoke to us about as follows:—"No, I assuredly do not like bees. I like to see them flying around and I'm willing to share my flowers with them, but I don't want anything to do with them. A few years ago I tried to take care of the bees while Mr. Sideliner was gone. The bees would crawl all over him and not sting him, so I was willing to try it too.

"They swarmed a good deal, but I managed to handle the swarms somehow—we had a smoker and such things, and I could put the hives down and get the bees into them without much trouble. But after a while it came time to rob them. Well, I understood I ought to do it towards night, so I started late in the day and began to brush the bees off the honey. Before I got through it was quite dark, and had begun to rain, and the ground was covered all over with bees, thick, crawling all around. And what they did to me! I was literally covered with stings, all over, and it put me to bed for several days. No, I don't want anything more to do with bees. One good thing, though—you know there's a good side to everything—I had had rheumatism badly up to that time, and though that was several years ago, I've never had a bit of rheumatism since."

Note to beginners:—Don't try to take your honey by the brush-off-the-bees-in-the-dark-and-the-rain method. Unless you have rheumatism.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

October 21 to 24, Dairy Show, Royal Agricultural Hall, London.—Particulars of the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1. **Entries closed.**

November 5 and 6, Honey Show at Cambridge in connection with the Eastern Counties Fruit Show. Open Classes.—Schedules, etc., from E. C. R. Holloway, The Rosery, Burwell, near Cambridge.

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei, and Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WHITE WYANDOTTES.—1919 Cockerels, bred from hens of 288, 282, 279 and 278-egg strains, sired by a Mrs. Cartwright's noted large-egg male, from 12s. 6d. each; few splendid 1918 Hens from 15s.—MISSES COATES, Broadheath, Presteigne. ru.89

HONEY.—Pure English, about 3 cwt., best quality, £10 per cwt., f.o.r.; sample 4d.—PULLEN, Ramsbury, Hungerford. v.8

FOR SALE, six Hives of Bees (together or separate), strong, healthy, with young Queens, on 8, 10, 15, 20 frames; spare Hives, Section Racks, Supers, Feeders. Will make up lots to suit beginners if desired. Buyers to remove.—T. WARDALE, 22, Lancaster Road, New Barnet, Herts. v.9

HONEY for Sale; 1 cwt., £10, in purchasers' tins, or in 1-lb. pots 2s. per lb.—H. BURNETT, Hickling, Melton Mowbray. v.10

QUEENS.—Two Hybrid Italians, mated July this year, laying well, 7s. each.—16, Church Road, West Kirby. v.11

FOR SALE, ¾ cwt. of first prize Honey, 2s. lb. in bulk.—A. JACKSON, Elveden, via Thetford, Norfolk. v.12

QUEENS.—Three Italian Hybrids, 10s. each.—GREEN, New Dale, Wellington, Salop. v.13

APPLES AND NUTS from my own orchards. Most kinds of dessert and cookers at producer's prices (no middleman) from 12 lbs. upwards. State wants.—NELSON, Foxpitt, West Farleigh, Maidstone. v.15

TO CLEAR.—Thirty Section Racks, various measurements, price 1s. 6d. each and carriage.—Box 47, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. v.14

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

"LET THE WHEELS GO ROUND."—A swarm of bees was purchased July 1 at 5s. per lb. It weighed 3½ lbs., plus half its own weight. What did it cost?—S. H. SMITH, 30, Maid's Causeway, Cambridge. v.16

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free. —F. RUMMING, 60, West Avenue, Oldfield Park, Bath. IV.6

DAIRY SHOW

AGRICULTURAL HALL, ISLINGTON, LONDON, N.

PATRON: H.M. THE KING.

October 21, 22, 23, and 24

(TUESDAY TILL FRIDAY.)

Great Exhibition of Cattle, Goats, Poultry, Pigeons, Dairy Produce, New and Improved Inventions, Butter Makers' and Milkers' Contests, Cheese Making, Poultry Trussing, and Food Bottling Demonstrations.

Inclusive admission on Tuesday, October 21 (Judging Day), from 8 a.m. to 6 p.m., 3s. (the Gilbey Hall and the Poultry and Pigeon Department will not open until 1 p.m.), and from 6 to 10 p.m., 1s. 6d.; on Wednesday, October 22, from 10 a.m. to 6 p.m., 2s., from 6 p.m. to 10 p.m., 1s. 6d.; and on Thursday and Friday, from 10 a.m. to 10 p.m., 1s. 6d. The Poultry and Pigeon Department and Gilbey Hall may be closed at 8 p.m. on the Friday.

A B C AND X Y Z OF BEE CULTURE.

By A. I. and E. R. ROOT.

We have just purchased a dealer's surplus stock of the 1917 edition of this work. We have only a limited number, which we have been able to secure at a low price. While they last we are offering them to our readers at

13/- each, post free 13/9

All bee-keepers should possess a copy of this comprehensive work, which cannot be procured elsewhere under 16s. When this supply is exhausted the offer cannot be repeated.

BRITISH BEE JOURNAL OFFICE,
23, BEDFORD STREET,
STRAND, W.C.2.

Books for Bee-keepers

NOW IN STOCK.

		Postage
A.B.C. and X.Y.Z. of Bee Culture (ROOTS)	13/-	9d.
A Modern Bee Farm (S. SIMMINS)	7/6	6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	3d.
Dissectible Model of Queen Bee	4/6	3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	1d.
Fifty Years Among the Bees (DR. MILLER)	5/-	5d.
Honey and Health (A. HOPE)	-/6	1d.
Honey Vinegar (REV. G. BANCKS)	-/2	1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	6d.
Langstroth's The Hive and The Honey Bee	7/6	6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	2d.
Productive Bee-Keeping (PELLET)	10/6	6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.)	2/-	3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	2d.
Scientific Queen Rearing (G. M. DOOLITTLE)	3/6	4d.
Snelgrove's Method of Re-Queening	-/6	1d.
The "Townsend" Bee Book	2/6	2d.
WAX CRAFT (T. W. COWAN)	2/-	2½d.
Wilke's Book on Swarming	1/-	1½d.

MISCELLANEOUS.

The Lore of the Honey Bee. By TICKNER EDWARDES. **2/-**, postage **2d.**

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

THE
British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary,

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

The 'Kent' Standard Model Hives & Appliances

TESTIMONIAL. *May* 12.

DEAR SIR,—I have had an opportunity of comparing the material and workmanship of your hives with others on the market, and in my opinion there is no sort of comparison between the two, yours being altogether superior in every particular.—Yours faithfully,——

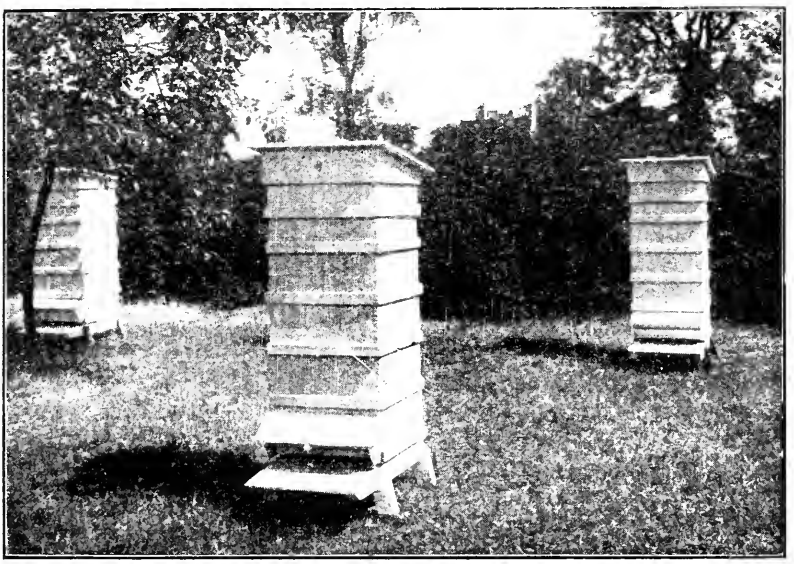
S. J. BALDWIN, Stanley Road, Bromley, Kent.

Winter your bees in good sound hives and so minimise the risk of losing them.

The Stevenson 200-lb. Skyscraper Hive (W.B.C. Type) will not only do this for you, but will also enable you to keep the bees next year on the most modern and scientific lines.

It has many advantages and does away with the inconveniences experienced in using ordinary hives, thus saving time and labour and helping you to get the best possible results.

The materials and workmanship are of the best, and delivery can at present be given within a week of order. Order now so as to winter your bees in this hive and ensure a better harvest next year.



A corner of an apiary of twenty hives.

There is still time to get your bees into these hives this year if you order at once. It will pay you to scrap those old cramped hives of yours, with their useless leaky roofs. Do it now, and have an apiary that will be profitable and that you can be proud of.

Send for full particulars and price to:—

The Croydon Aviation & Manufacturing Co.

LIMITED

45, Oxford St., HIGH WYCOMBE

Conversazione.

May we draw the attention of our readers to the Conversazione to be held during the Dairy Show week. This is the first October conversazione held since 1914. It will be held at the Central Hall, Westminster, London, S.W., on Thursday next, October 23. The conversazione will open at 4 p.m., when Mr. G. Thomas will give a paper on "The Difficulties of Queen Rearing," to be followed by a discussion. Tea, which will be free to all, will be provided at 5 p.m. At 6 p.m. Mr. G. Bryden will give a paper on "Wintering Small Stocks and Nuclei Indoors." A paper on "The Best Methods of Increasing Stocks of Bees," by Mr. W. Herrod-Hempsall, at 7 p.m. It is intended to limit the papers to 10 minutes, and the discussions following to 50 minutes, that is one hour in all to each subject.

All interested in bee-keeping are welcome, ladies being specially invited. Admission is free, and it is hoped the meeting will be a great success. The nearest station is Westminster District Railway.

A Dorset Yarn.

One of the daily papers states, October 11, that "bees have gone to sleep for the winter." If the writer came to our farm he would find that they were very much awake. As the visitors come to the farm they see the bees on the rasps and violets, can see them flying across the yard to their hive homes—not much winter sleep for our lot yet. Am thinking that the "ink-slinger" himself knows very little about bees, or he would not make such an assertion. Pope wrote: "A little learning is a dangerous thing; Drink deep, or touch not the Pyerean stream." The writer, if he looked into the habits of bees ever so little, would soon find that they do not sleep as does the dormouse, nor are they torpid like the snake, but all are really living insects; out in the sunshine when warm enough for them, and living on the surplus store they accumulated in their hive homes when the flowers were plentiful. I like to see them active in autumn, looking for nectar in the late flowers.

Visitors still come to the farm to see the bees, the rasps, and the violets. All of them seem eager to buy land in the south, demobilised soldiers and sailors prospecting for land and houses; others write for agents' names in our locality—all seem determined to come to Dorset, the "land of milk and honey." Milk is paying the lucky owner of cows a fine price now, and if he has bees as well they are the rent payers. Some Irish farmers say that "the pig pays the rint," but it will be no trouble for the farmer to buy his freehold at the present high payments for both milk and honey.

Those who were fortunate to put in many thousands of gooseberry and blackcurrant cuttings for the bees to have early nectariferous flowers will find that if they want to thin out the lines, that high prices are given for one and two year old plants, 25s. to 60s. per 100. Each year in these yarns I have advocated this, and this year the number of inquiries for both will clear me out in a month. I believe that this is the greatest help to my bees, these acres of gooseberries, for them to get nectar close to their hives: every piece will grow if inserted in the soil and made firm. Plant each year, and as soon as one field is filled up, ask your parish council for another, they can get you up to five acres. When the bee-keeper has filled up that he can go to the County Council and apply for a small holding—they have power to take land for small farms. With a grass field or two he can have some cows, then like us at the Violet Farm he will have both "milk and honey." The prices are equal. The dairy companies give retail dairies in the towns and cities give 2s. 6d. each section for the honey. These, 2s. 6d. each gallon for the milk, and the with a few fields of fruit, and one has everything "that makes glad the heart of man," as we have so many times sung in the Psalms in the Church Service. There will be room to beautify one's surroundings with all things beautiful in the floral kingdom, and all will be "a thing of beauty and a joy for ever," and if a man is not happy then, with fine apples and juicy pears, raspberries and strawberries, milk, cream, butter, and delicious honey from every flower that secretes nectar, then that man must have a twist in his nature, but for most of us ordinary mortals all this makes for real happiness.

J. J. Kettle.

Jottings from Huntingdonshire

My experiments a few weeks ago seem to have called forth many denials to my conclusions as to the bees preference for flying south. Singularly enough, not a few bee-keepers have let me know they agree with me, while those who do not have tried to convince me, through the columns of the B.B.J., that I am wrong. Perhaps I ought to make it clear that I do not wish

to infer our insect friends would go south foraging over waste fields, when a field of beans, or clover in flower might be awaiting their attention not far north, but I still insist that in a district where nectarial flowers are blowing in all directions, those south of the bees will get all the attention. In proof of this I have had my notice called to a field of beans some 400 yards south of my apiary being more heavily fruited than a similar field situated north, north-west, and not more than 350 yards away.

With regard to the bees fondness for blue flowers. This is indisputable. Centuries ago the Hittites, and after them the Amalakites, discovered this partiality, and turned it to evil account by growing flowers blue in colour, but rich in opiates, and so succeeded in making a drink from the honey which had a doping effect. Kings and peasants ruined themselves body and soul through this fibre-destroying beverage. So great an authority as Sir John Lubbock (Lord Avebury) noticed how bees liked blue, whose testimony is supported by Mr. W. D. Issard, and while I hesitate to assume greater knowledge than my kinsman of Runcorn, he having forgotten more about bees than I am ever likely to know, I nevertheless am prepared to prove to him that where a field of white clover stood side by side with a field of flax, the flax would attract the bees before the *repens trifolium*, despite the fact that white clover, like all *leguminosæ* would be richer in nectar. By the way, too, white clover does not at any time attract bees unless it happens to be the chief foraging plant in a district. Hereabouts the Italians very rarely touch it, the Dutch are more partial to it, which is not to be wondered at since it is Holland's chief honey yielding flower, yet even Dutch bees will discard white for red, or crimson clover or flowering beans. He who is so situated as to claim his honey to be pure white clover honey is to be envied and pitied. Envied at having sections filled with rich sweetness, and neatly and beautifully capped; pitied because if the season happens to be, as this year, unsuitable, very little surplus honey will be stored.

Now let us see what the bees are doing at this present. I am wondering whether I ought to have told them of the recent railway crisis—an old lady near still insists that unless one tells the bees of any unusual happenings bad luck will follow. I am afraid I literally court the unlucky star to shine on my hives, for my best nanny goat kidded a month ago. I omitted to tell the bees. One of the two kids, delicate from birth, died the other day; again I forgot to tell the bees, and the railway strike has commenced and ended and I have not apprised the apiary of the fact. I went out this morning to see how things were. Having had a succession of glorious—one might say gorgeous—days I was not expecting to see the liveliness one notes when a perfect October day appears after a spell of wet weather. One Dutch stock, however, in no mood to strike work were as busy as ants, and still breeding. This stock was a cast, and rather small at that, and after the manner of casts was working overtime with vigour. Nor had the little ladies to go far to gather pollen, the vegetable marrow flowers being near at hand to assist things on a bit. The field of charlock, in full bloom, is now no more, steam tractors having been at work, uprooting the weeds, and the sun did the rest. Referring to casts. It is well known their productivity. My very best stock to-day, which has given more honey than the rest, is built up from a cast. Were it not that casts weaken the parent stock, I should feel inclined to use the old slogan and say, "Let 'em all come." They insure a young queen.

By the time these lines are in print, all stocks will be tucked down nice and comfy for the winter. Bee ways, and may be a cake of candy placed under the quilt. Although in this district *malope grandiflora* will be flowering on well towards Christmas, as will also anchusias, our little friends will soon be getting inert, waiting for the genial February days to go forth again among the aconite, and later buzzing among the hazel catkins. In colder districts, of course, matters will not be so forward. In the meantime we can get our section racks scraped clean, and filled with new section frames and Weed foundation, when we must pack them away. But before doing so we shall spray them with Yadil, this will keep away moths and bugs, and give them a smell the bees will welcome in the spring. Those making a few home-made hives will not delay to order the wood in good time, and the paint. Those buying hives from makers will place their orders early, and whosoever is venturing on hives and frames larger than the W.B.C. standard will be able to get these delivered shortly after Christmas. Have the paint ready to repaint if necessary. In the Bee-Keepers' Record, two writers are urging the necessity of getting Paint, not a white or coloured mixture in tins, which is oftentimes palmed off. Better varnish hives over with good linseed oil than colour them with a substance that that will not stand a few driving showers.

Watch the covering over skeps, and examine, as often as the weather permits, for mice. The other day I was with a friend looking at a few stocks. Among

some bar frame hives he had a skep well covered down, but on moving the cap, out jumped a mouse; closer examination revealed a nest of young mice very cosily enjoying the warmth from the bees. It does not take half-a-dozen mice long to work mischief, so skeppists beware)

E. F. Hemming.

Bees and Bee-Keeping in Japan.

Some three or more races of bees are kept in Japan.

1. The Japanese bee (*Apis Japonica*) is a sub-variety of *Apis Indica*, or Oriental honey-bees. It is a Japanese native, if not original, and came from the Continent hundreds of years ago. For hundreds of years it was wild. Then it was kept by men in some localities. Of course, it was kept in a kind of skep that was a box, or barrel, used for any other purpose. Some years ago those who learned apiculture in America, or Europe, commenced with frame hives, although bees are yet mostly kept in a non-frame box or barrel.

The Japanese bee is black in colour, having whitish bands round the abdomen, rather small in size, quick in motion, does not propolise at all, a fine comb builder, little swarmer, good winterer. What will be interesting to you, it fans at hive entrance away from head or in opposite direction to that of European bees, and does not cross with European bees at all.

Its motto is "safety first," from the large Japanese hornet, whose great damage was stated in the "Gleanings in Bee Culture," December, 1918, by me, while European races of bees are attacked so badly, because they came out to fight, while the former hides away from the hornets whenever they come to the hive entrance.

2. The Carniolan was imported from Mr. Benton some 30 years ago, and from Austria years after. It is quite "out of our love" at present, because of its swarming impulse, although it is yet kept so well by our fellow bee-keepers in cooler regions.

3. The Italian, three bands, goldens, and a race of Mr. Sladen's bees, are making their way so well.

4. Other races of bees, as Cyprian, etc., are gone away, although we had them years ago.

We use 10 or 8 Langstroth hive. In short, our bee culture is some modification of American bee culture. We would like to learn more from your bee-keeping.

Yasuo Hiratsuka.

[Mr. Yasuo Hiratsuka is one of the editors of *Yo-ho-no-Tomo* (the Friend of Bee-keepers), a Japanese monthly bee paper, published by the Japanese Bee-keepers' Central Association, which we receive each month. Unfortunately, the ability to read Japanese is not one of our accomplishments, but if any of our readers can do so we shall be pleased to send the paper to them, and they could possibly give extracts for the benefit of other readers. We shall be pleased to hear from our friend on bee-keeping in Japan at any time.—Eds.]

The Honey Harvest—A Disappointment.

The honey harvest in Great Britain during the season of 1919 has been very variable. In some districts, notably those in which fruit is grown largely and bee-keepers give proper attention to their stocks during the autumn of 1918, a good harvest has been gathered. Owing to the fact that the weather during the flowering of the fruit trees was favourable to the secreting and gathering of nectar, an average return of 70 lbs. per stock is noted. When the white clover was in bloom the weather was too dry and hot for nectar secretion, and consequently little honey was secured from this source. It was only from a few districts where low-lying land provides moisture in dry seasons that a white clover yield is reported. The lime harvest was spoiled by continuous rain during the flowering period. Speaking generally, the honey harvest of 1919 has been disappointing.

—*Board of Agriculture Weekly Service.*

An American Method of Keeping Ants from Hives.

Dissolve 20 grammes corrosive sublimate in 60 c.c. of *ethyl* alcohol, and add 31 grammes of orange or white shellac to solution. Shake the bottle at intervals until shellac is dissolved. The mixture can then be applied to the legs of the hives. It hardens rapidly, is waterproof, and remains effective for about a year on wood, but less on metal. A temporary method is to soak tape or strips of cotton in a saturated solution of corrosive sublimate, and when dry to wind the cloth round the legs of the hive. This, however, will not withstand moisture, and effect soon passes away.

Honey for Surface Burns.

Is excellent to relieve pain. Paint on with soft brush. Use in same way for boils or any suppurating surfaces.—*The Western Honey Bee.*

Re-Print of Articles by "Lordswood."

As promised some time ago, we have had several of "Lordswood's" articles reprinted, two of which are given below. "Lordswood" (Mr. Herbert J. Sands) died early in March, 1899, and his last article appeared in the Journal in November, 1898. It says much for the charm of his writings that those who read them over twenty years ago should still remember them with pleasure, and desire to read at least some of them again. We have no doubt that bee-keepers of the present time will read them with delight, and their reperusal will bring pleasant memories to our older readers.

The following are from the B.B.J., 1897:—

Bees and Bob-Howlers.

The sun burnt fiercely (as scientists tell us) ninety million miles away; and at that distance from it the loose-strife which coloured the banks of the Severn a rosy hue, cranesbill and soap-wort and meadow-sweet, that grew in tangled thickets—all were glad that they had their roots within reach of the cool and refreshing water. When the sun nears the zenith it is best to lie in the shadow of an elm. The many walls of boughs packed with leaves are excellent non-conductors of heat, and green-sward beneath is more to be desired than cushions of feathers or horsehair. Sweet are the sun-flakes that tumble down from between the leaves, sweet as honey are white clover-heads, and very satisfying, even to a daffodil grower, are a few acres of buttercups. There is a breath of air here by the river, but beyond in the forest, where the young oaks stand islanded in a sea of lavender-coloured scabious, over which sail chequered silver-washed frilillaries; or where the brake-fern has taken possession of miles of territory—soft undulating waves of green fronds that smell delicious as you tread them under foot or gather and bruise them in the hand—there it is hot and oppressive. Even when you keep among the ferns and foxgloves you sigh for the cool wind, but how much more along the stony "ride," where the sun's rays become Röntgen "X"-rays, for the forest rises steeply to the north and south, more gently to the east and west, so that in this hollow space there is nothing to divert the high tide of heat waves that beat with relentless fury on the furze and wiry heather. Revelling in the heat, however, there were butterflies settled on the hot path, the peacock, and the comma.

After walking in the forest all day I came down to a little stone-built farm-house, hidden in orchard trees, and, after making myself still hotter by drinking tea, I went with mine host into the garden to see how fared the bees. The farmer was a bit of a genius, like most farmers are. He used to argue to himself like this: "Why clean the fowl-roost out, for it will be just as bad again in two or three years' time? What's the use of growing eatable apples, for if I do the lads will be breaking down the fences a-getting after them? I wonder what folk grow flowers for? There's no eatable toobers at the root of them." By this kind of philosophy Farmer Restharrow saved himself a great deal of work and worry. He is likely to live—all being well—to a good old age, and when he gets past work his children will support him. Scale had attacked the jargonelle pear tree which covered the front of the house, till it was nearly leafless. The garden paths were grass overgrown, and fowls wandered about the perforated cabbages. When a swarm came off, Farmer Restharrow always set it by the spot where it had "lodged," consequently the hives appeared to have been sprinkled about as you sow turnips. He also, when planting potatoes in the spring, planted them all round the hives. "'Twill kip down the weeds," said he. There were about a dozen hives; three frame hives and the rest skeps. Inside the frame hives he used old jackets and trousers in lieu of quilts. On the skeps, to keep out the wet, were old rotten sacks. "Can't abide heckles," said Restharrow. "My farether never would 'ave 'em, either. 'Corses munny,' he used to say, and 'sacks corses nothin'.'"

"I dunno' wot's the matter with the bees this 'ear," he went on to tell me. "They've bin a doin' nothin'; no 'art in 'em loike, and not 'ad a single swarm. That fraame hive there ain't got above two 'undred bees in 'im. I put a lot o' squares on top, but they 'aven't touched 'em, so fur. An' it's a good hive, too. I 'ad 'im from a mon Bridgenorth way as gev thirty shillin's for 'im from Lundon, but I on'y gev 'im foive-an'-twenty. D'yer moind 'avin' a look at 'em for me, sir? I've got a vaal and sum bellus. The spring's broke, but you can make it go by usin' baath hands. I can do wi'out a vaal, sir, for the bees doan't sting this moon, sir."

I put on the veil, which was of white muslin curtain net, and, after lighting the bellows, opened the first frame hive—the one with the two hundred bees. My friend, Restharrow, came and looked on as bold as brass. There was no quilt or

anything on the sections! I took them off, lifted out a frame (after cutting through an inch of propolis to set it free), and lo! I set excited eyes, for the first time, on foul brood! The hive was in a fearful state of disease. I opened the other hives, and they were also diseased—some badly. The bees were vicious, as they usually are after a scorching day. In a little while (the moon notwithstanding) half a dozen bees had driven my friend to the hedge, in which he held his head as though he rather thought there might be a bird's-nest or two found by careful examination. The bees stood on the wing at ease, a few inches from the edge, ready at a moment's notice to go mad in his back hair: so there he stood for about twenty minutes while I rigged the apiary to rights. Then I went and rescued him, and we walked up and down the orchard at the back for a space discussing what was to be done.

Said he, "On'y to think of it! And me a wunderin' wot was the matter wi 'em all the time! Wish I'd never seed them patent fraame hives. I never 'ad the disease afore. It was that Bridgenorth mon a overpersuadin' me, and it did seem cheap—on'y foive-an'-twenty shillin's, and come all the way from Lundon. Wish I'd kep' to skeps now. My farether never 'ad anything aside skeps. It's a judgement on me for goin' in for newfangled things. As you's stayin' the night, sir, weel brimstun the worst two when it gets dark, and they'm all back from the forest: an' if you will be so kind as to send me that stuff you've bin tellin' me of—sally's-sick, I think you said, sir—I'll dose 'em, sir: and maybe Sally will get all right agen, sir. Ah! Ah! What bird was that did you say, sir? It's what we calls a goat-sucker, but some folk call 'im a nightjar. He comes from forrin' parts in May, and as soon as night draws on he croaks worsen frogs. But I need not tell you, sir: you knows more'n I do about birds and such like. I've seed several herons this turn in the lily pool up the forest, and there's a wunderful sight of woodpeckers and jays about. We'es 'ad to look sharp after the chicks this turn. D'yer mind the time when I found that lobster caterpillar? I've kep' my eyes open, but never seed another. It was a rare 'un, that was! I saw a young feller goin' up in the forest a bit ago, after the moths. Talkin' about moths, though, d'yer mind that night when we carried that 'lightenin'-moth-conductor' (as you calls it) trap o' yours up into the 'Rough,' where the light shone out o' the trap right across the forest? By George! To see the bob-howlers a comin' as thick as snowflakes, a makin' as if they would break the glass! And you a boxin' of 'em as fast as children pick bilberries, and me with the net a plungin' after 'em as come apast the trap, and a ketchin' my legs in the heather and goin' wallopin' over! And you a tellin' me to stop makin' those cursory remarks about heather and bob-howlers. By George! I never laffed so much in my life afore or since. I wonder all the Earl's keepers from here to Cleobury-Mortimer didn't come to see what was oop. By George! that was a year for butterflies and moths, and for bees; I did 'ave some 'unny, and noa mistaak. D'yer mind the butterfly you called Adippé a swarmin' and scuttlin' over the bracken in droves, and another as you call Paphia a floatin' and settlin' on the flowers of every bramble briar? We'se never had so many since. Likely enough they'se got foul brood among 'em. By George! there was some flowers for the bees that year. Primmyrose flowers as thick as grass, and the forest blue up Birchfold way with devil's scabious: and d'ye remember the ling and heather and the beds o' foxgloves by where you found the redstart's nest? By where the King Georges (green dragon-flies) were thicker than gnats over the streaam? By George! that was a year!"

And, by George! that was a year (1897) echoes—LORDSWOOD.

A CORRECTION.

When the printer of the B.B.J. makes a common butterfly, such as a fritillary, into a frilillary (sounds like a lady's dress), and a common plant, or rather shrub, such as cotoneaster into coloneaster, I simply sigh and hope for the day when Board-school children (and all others) will be taught more of natural history if less of Euclid and algebra and the piano. When, however, he makes me describe events that appear to have happened at a date which is yet to come, I (being no prophet) am compelled to sigh out loud enough to be heard in the next room—the door shut and all!

The mistake occurs in the concluding lines of my letter in last week's issue. 1897 should, of course, be 1887, *i.e.*, the Jubilee year. May the Diamond Jubilee year be as good!—LORDSWOOD.

An Up-to-date Bee-Keeper.

Is *Apis mellifica* an annual? There are, I know many species of bees that are annuals. Hymenopterists call them "solitary" bees, not because they are bachelors or old maids, but because they go about in pairs (especially along roads where there are no gas-lamps), and have nests in sandy banks, and in walls where bricks have been left out, presumably to

act as drain holes, but which are invariably the driest places on earth. These bees are perhaps the happiest kind of bee, for they are not worried with many servants or neuters. They make their own bee-bread, collect their own honey, wash up their own crocks, sand their own floors.

One particular friend of mine decorates the walls of his bungalow residence with art paper, in the shape of pieces cut out of rose-leaves; another is content with mud roof and walls, built on the surface of a brick wall. A house thus built, if lined with feathers, can be cosy enough, as a martin will testify. Some pass the winter in the pupal stage (*i.e.*, as near as bees can get to it), others merely curl themselves up in a dry place and go to sleep, which proves that they have more sense than is usually allotted them.

These, then, may be termed annual bees, but I think everyone will agree with me in describing *Apis mellifica* as a perennial—a perennial, however, which may be treated as perennials amongst plants oft-times are, either as biennials or as annuals.

Bee-keepers of the old school usually treated their bees as biennials; only as annuals if they were too light to "stand over the year," or, contrariwise, if they were too heavy, when it seemed a pity to let them "stand over."

A friend of mine—a bee-keeper of the new school, an up-to-date sort of fellow—however, treats his bees as annuals! Every autumn he extracts all the honey they have, never feeds them at all, so that they invariably die about November. Then in the spring he buys (from me) either stocks or swarms. Sometimes my bees swarm into his combed hives gratis, and that, of course, saves buying. He buys stocks and swarms from me, but the funny part (perhaps it is part of the system) is this, that he invariably forgets to pay me for them. I think I will send him a copy of the BEE JOURNAL containing this, just as a gentle reminder that a remittance will be esteemed. Then there will be another friend added to my erstwhile double-dahlia friend, who will pass me by with the tip of his nose elevated in the air. But what of that? A man, even if he is a bee-keeper, ought to be able to get hold of his own.

"It's a very nice world in which we live,
If you want to lend, or wish to spend,
Or away your money you wish to give.

But if you want a very small loan,
Or only try to get hold of your own,
'Tis the very worst world that ever was known."

—LORDSWOOD.

Twickenham and Thames Valley Bee-Keepers' Association.

A lecture, arranged by the Twickenham and Thames Valley Bee-keepers' Association, was given at the Public Library Lecture Room, Twickenham, on October 2, by Mr. A. G. Gambrill. Dr. J. R. Lesson, J.P., C.C., F.L.S., presided.

In his opening remarks the chairman emphasised the great national importance of bee-keeping, in relation to the fertilisation of fruit blossoms, etc.

Speaking from an experience of 50 years as a bee-keeper, the lecturer proposed to give detailed instructions on "Work in the Apiary for each month of the year," but was unable to complete his lecture owing to lack of time.

It was unfortunate that the railway strike prevented many members of the Association from attending an extremely interesting and instructive lecture.

In conclusion, a vote of thanks to Mr. Gambrill and the chairman was heartily accorded.

Cheshire Re-stocking Scheme.

In your issue for October 2, you print an article on the Staffordshire Re-Stocking Scheme. As no results are given, the account is of little interest to bee-keepers generally. The following is an account of our efforts in Cheshire.

At the beginning of the year a committee was formed to organise a scheme for re-stocking the county with bees. We decided to avail ourselves of the stocks already in the county, which had shown immunity to "Isle of Wight" disease, and to get the owners of these to work them for nuclei production. To avoid the necessity of raising capital we decided to work the scheme on a sound commercial basis, so fixed a price for the nuclei, namely, £2 5s. for four frames, which would enable the producer to raise them at a profit. Eight apiaries, consisting of 60 stocks all told, were utilised for the work, under their respective owners. Application forms were circulated early in the spring, to be filled up and returned by May 1, so that we then knew how many nuclei would be required. About 80 applications were received, and these were then allocated to the respective breeding stations to be supplied. Towards the end of June, invoices were sent out, and subsequently the nuclei despatched. Some of the breeders utilised a few Dutch skeps and Italian queens, imported by the Board of Agriculture for augmenting their breeding stocks. The scheme has worked most favourably throughout, and the total number of nuclei applied for, 80, have

been supplied; the only hitch occurring being a slight delay in the despatch of the first few nuclei, owing to the spell of cold weather which we experienced about the end of June and beginning of July.

The principal breeders were:—Mr. A. M. Sturges, Hartford; Messrs. H. H. Brook and A. J. Blakeman, Bowdon; and Mr. A. Carter, Wilmslow. Mr. F. Morris, secretary of the County Horticultural Sub-Committee, acted as secretary to the Bee Committee, and carried out his duties in a most efficient manner.—E. W. Franklin.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Direction Bees Fly.

[10016] None of your correspondents have mentioned direction of wind in connection with above. I have always observed that during the honey flow, when there is an abundance of forage in every direction, bees will fly out against the wind, presumably to have the wind in their favour when coming home loaded.

Your correspondent, "A Regular Reader" (10007) makes an astounding statement as to the results obtained by him this year. If true, his balance-sheet will read somewhat as follows:—

Cr.			
12 stocks at £4	£48	0	0
672 lbs. of honey at 2s. ...	67	4	0
	£115	4	0
Dr.			
1 good stock	£5	0	0
1 weak stock	3	0	0
16 lbs. sugar	0	8	0
1 good swarm	2	10	0
3 small swarms at 30s. ...	4	10	0
100 frames and foundation...	5	0	0
120 lbs. sugar	3	0	0
Balance (profit)	91	16	0
	£115	4	0

Ed. Franklin, Mouldsworth, Chester.

Frames.

[10017] You have been so good as to print several letters from me lately. I hope it is not too much to send you this one.

First, I want to assure all those who have been good enough to write to me that I am grateful for their support, and that if I have failed to reply to some yet, it is because I have really not been able to keep up with the letters from those who have and who want the 16 by 10 frame. In due course all will receive a reply. These letters come in often ten at a time.

(10014.)—I do not think I have any Dutch blood. I would kill any queen old or young and re-queen if I thought she was tainted with much Dutch blood. I got about 60 lbs. average surplus this year and sold as many nuclei as I have stocks and increased 45 per cent. When Mr. Illingworth gets a start with bees he will doubtless do better than I, but will not find it easy to say for certain just what breed his bees are unless he re-queens all each season with pure stock.

(10011.)—Editors' note. It is not a question of whether to adopt the 16 by 10 at all. That is already settled. The 16 by 10 is used largely—much more extensively, indeed, than I had for a moment imagined a month ago.

I don't think any of us large frame users, for one moment expect the B.B.K.A. to alter the standard size. We do not ask them to, or want them to. This change is being made and will have to be made in the teeth of opposition for them. I am under no illusion on that matter. I prefer it so myself, as we who wish to get on will be far better able to do so free from the shepherding of any association.

I do not want to persuade those who are satisfied with the standard to change, but I do want very much (and have gone a long way towards doing it) to bring those who want a large frame into line, so that we can all work together on 16 by 10 as so many are already doing. I am sure you, Sir, will readily agree that it is better for us who have changed, or are about to change, to all use one frame, and not have 40 different men using 40 different frames. That way lies confusion. [We quite agree with Mr. Manley on this point.—Eds.]

The 16 by 10 is undoubtedly a good frame and better than the Langstroth. Indeed, I rather think there is no frame as good for size and shape for general purposes.

I don't wish you to alter your opinion. I had rather you did not, as a matter of fact; but I think that even I could have vamped up a better apology for the standard than you. The skep was in use

for 400 years, I suppose. You say you keep your eyes open to the virtues of the standard. Is that all you can see? I can give you one of its virtues. It is *cheap!*

Many of your readers have asked me to write as shortly as possible a summary of the results of the correspondence, on which I have been engaged, in the course of a couple of weeks' time.

Perhaps you will be good enough to find space for that, too, and then I will trouble you no more for a long time to come, unless you wish me to do so.

Thank you heartily for so sportingly printing these letters with which you are in such profound disagreement.—ROB. B. MANLEY.

Excessive Swarming.

[10018] I am giving you an account of my bees (hybrids), and should like to know if my experience is exceptional.

I started this season with one stock. On May 13 they swarmed; this swarm drew out ten sheets of foundation in eight days, when I put a rack of sections on, in a fortnight the bees had crowded their brood-chamber with honey, but refused to go up into the sections. I took out one frame full of honey and replaced with frame with full sheet of foundation. On Aug. 5, after swarms had issued from it, only a pound or two was left in the hive.

On May 25 I had a strong cast, on that day I examined the parent hive, cut out all queen cells I could find, and hunted for the live queen, but could not find one. (The hive was very crowded.) In the evening I threw back the cast, but it came out again the next day. I threw it back again a second time, it was out again, in greatly increased numbers the following day. This time I put it in a new hive with full sheets of foundation and placed it in the position of the parent stock, which was removed to a new stand. From this cast I took 20 lbs. of honey the first week in August.

At the beginning of July the stock had two racks of sections, the cast had two racks of sections, the swarm had one rack of sections.

On July 16 there was a swarm from the cast which was lost.

On July 18 there was a swarm from the stock which was lost

On July 28 second swarm (or cast) from the cast.

On July 30 swarm from original swarm.

On July 31 second swarm (or cast) from original swarm. (The last two I put together.)

On August 1 second swarm (or cast) from stock. (This I threw back again.)

On August 2 third swarm (or cast) from original swarm which was lost.

The first week in August I took 34 lbs. of honey from the stock.

This year's return from one stock is:—

Three strong stocks, two weak stocks, but I find to-day they are full of brood; and 54 lbs. of honey.

I shall be glad if you will tell me if my experience is common or not. Also what you would have done to prevent all this swarming, or to improve on that which I have done.

It was a pity to have lost three swarms, but I was away when they came out.—H. H. KEEPING.

A Note from Monmouthshire.

[10019] My experiences in North Monmouthshire may be of interest to your readers.

In March, 1917, I obtained a stock of hybrid bees, and although I had never seen the inside of a bar frame hive, I managed, by dint of much study of various books and many stings, to obtain about 30 lbs. surplus honey. The next year they were wonderfully strong. I supered in first week of May, and took in all 166 lbs. of honey, extracted and section, from this hive. Unfortunately, this stock died during last winter, I believe owing to the queen, with which I re-queened late last season, being unfertile, and the stock naturally dwindled away. I purchased a swarm locally in 1918 (June), which I put in a new hive, and they seemed all right until the end of September. They had filled up with stores, but one day after a long spell of wet I found them all crawling. I tried various remedies, but to no purpose. In the meantime I had ordered, and obtained delivery of, two other stocks, one of which promptly started robbing the diseased stock. Being unable to stop them, I removed the diseased hive and bees to a garden some distance away. The robbers, however, were not to be deterred, and took away every ounce of honey before I could go and close the hive. I began to "get the wind up," as I feared the robbers would contract the "I.O.W." disease, having been in direct contact and having eaten the diseased honey. Notwithstanding the cold weather in mid-October, I decided to use drastic measures, and so I opened the hive and sprayed every comb, and the bees on same, with warm "Izal" and water, a strong solution. I removed some of the stores from all combs that had no brood, and substituted syrup medicated with "Izal." I dreaded that I should lose them in the winter or spring, but am thankful to say that they have done remarkably well, and I have had a very strong swarm from them and surplus honey. My record of extracted honey for this season from three hives is 362 lbs., most of which has been sold at 2s. 6d. and

3s. per lb., but I cannot get any of my present strain of bees to draw out sections.

Can you tell me if the following is a practical idea, or whether such a hive is at present on the market? I have been using W.B.C. hives this season, with two body boxes and three or four supers. In order to examine the lower supers or the body boxes it is at present necessary to remove all the upper "storeys." Is it not possible to obtain a hive which would permit of each super or body box being pulled out like a drawer, so that if one wished to examine the body box one could do so without disturbing all the bees in the upper portions of the hive? It seems to me that such an idea is feasible. No doubt they would cost a good deal to start with, but they would soon repay their cost. I should like to say how much I enjoy the *B.B.J.*, although I have only been a reader for about two years.—A. JACKSON.

[The Simmins Conqueror hive works on the "drawer" principle.—EDS.]

Combs from Other Hives.

BEES CARE FOR INJURED QUEEN.

One day as I was adding some frames of bees to a hive, the queen left the comb and ran among a group of strange bees on the bottom of the hive. They began to attack her, and, before I could rescue her, one of them caught the point of its sting in the queen's side so that it stuck slightly when I crushed the bee and pulled it away. Immediately the queen acted differently from the way she had previously behaved. She seemed hardly able to hold on to the comb; and her own bees, either because of her condition, or because I had held her in my fingers, gathered around her in unusual numbers, feeding her and massaging her with their tongues and working over her. Then I noticed a small welt on her side about the size of a small pin head. This seemed to be about where she appeared to have been slightly stung. At the time I took it for granted that it was a slight swelling from the sting, but since then I have somewhat doubted whether that was possible. It may be that the welt was there previously, and that I had not noticed it. I expected her to curl up and die within a few minutes. Her attendants, three or four minutes from the time I had rescued her, covered her over in their massaging and exceptional attentions, and I did not like to disturb her; but she was on an odd-sized frame that I wanted to remove from her hive, and she had to be removed to another frame. To do this I drove her attendants away with a little smoke and carefully placed her among others of her own bees between two brood-combs. She still seemed weak and dazed. She was immediately surrounded by a new retinue of nurses, that seemed to recognise her need of attention, and they repeated the performance of the bees from which I had just removed her. I closed the hive fully expecting to find her dead in front of the hive the next day, but a few days later I found her apparently as well as ever and laying nicely.—H. H. BENTON, Seattle, Wash.

Introduction, or Early History of Bees and Honey.

I said the bee was able to speak, and teach proud man, with all his boasted intellect, many a wise saying, if he was only willing to learn at her school; and the wisest man the world ever saw was willing to learn from the bee what all his wisdom could not teach him. I allude, of course, to King Solomon, as the following story shows:—

When Solomon was reigning in his glory,
Unto his throne the Queen of Sheba came,
So in the *Talmud* you may read the story),
Drawn by the magic of the monarch's fame,
To see the splendours of his court, and bring
Some fitting tribute to the mighty king.

Nor this alone: much had her highness heard,
What flowers of learning graced the royal speech,
What gems of wisdom dropped with every word;
What wholesome lessons he was wont to teach
In pleasing proverbs; and she wished, in sooth,
To know if rumour spoke the simple truth.

Besides, the queen had heard (which piqued her most)
How through the deepest riddles he could spy;
How all the curious arts that woman boasts
Were quite transparent to his piercing eye.
And so the queen had come—a royal guest—
To put the sage's cunning to the test.

And straight she held before the monarch's view,
In either hand, a radiant wreath of flowers;
The one, bedecked with every charming hue,

Was newly culled from Nature's
choicest bowers,
The other, no less fair in every part,
Was the product of divinest art.

"Which is the true and which the false?"
she said.
Great Solomon was silent, all amazed.
Each wondering courtier shook his
puzzled head,
While at the garlands long the monarch
gazed,
As one who sees a miracle,—and fain
For very rapture, ne'er would speak
again.

"Which is the true?" once more the
woman asked,
Pleased at the fond amazement of the
king;
"So wise a head should not be hardly
tasked,
Most learned liege, with such a trivial
thing."
But still the sage was silent: it was plain
A deepening doubt perplexed the royal
brain.

While thus he pondered, presently he sees,
Hard by the casement—so the story
goes—
A little band of busy, bustling bees,
Hunting for honey in a Sharon rose.
The monarch smiled, and raised his royal
head;
"Open the window!" that was all he
said.

The window opened at the king's command:
Within the room the eager insects flew,
And sought the flowers in Sheba's dexterous hand.
And so the king and all the courtiers
knew
That wreath was Nature's: and the baffled
queen
Returned to tell the wonders she had seen.

My story teaches (every tale should bear
A fitting moral) that the wise may find
In trifles ligh as atoms in the air
Some useful lesson to enrich the mind—
Some truth designed to profit or to please,
As Israel's king learned wisdom from the
bees!

If you wish for a pleasant and profitable recreation, I say, with the good Bishop of old, "Keep bees—keep bees—keep bees."—WILLIAM CARR, Newton Heath Apiary, near Manchester.—BRITISH BEE JOURNAL, July 1, 1881.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

Cutting Queen Cells from Metal Comb.

[9896]—*Re* metal combs in your issue of September 26, would it not be difficult to cut out ripe queen cells from these combs, to introduce to a nucleus? I presume you could only get away half the cell, the base being metal. May I take this opportunity of thanking you for your very kind assistance, readily given me throughout this and last year, both in replies to my queries, through your paper, and on the frequent occasions when I have personally called at your office. I think I may claim to have had two very successful seasons, due, in a very great measure, to your expert advice.—H. K. SPRINGETT.

[REPLY.—We have not yet tried the metal combs, but we should say it would be very difficult to cut out a queen cell without damaging its occupant.]

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

REGULAR SUBSCRIBER (Manchester).—*Keeping Bees in an attic.*—Bees may be kept in an attic, allowing them to fly from the window. Better have the hive entrance about six inches from the window, and if possible a covered passage from hive to just outside the window. You will not need outer casing or roof, but the hive should be well wrapped up for the winter.

C. M. P. (I.O.W.).—*Using swarm catcher.*—The "Brice" is the best pattern. It contains four frames and foundation. When a swarm is captured by it, remove appliance and bees to the new location. Lift out frames and bees, and place in new hive, and shake the rest of the bees in front of the hive.

L. B., G. B. (Repton).—*Giving more ventilation.*—If the full width entrance is not sufficient place a thin block of wood under each corner of the brood box. A good plan is to use a piece of section wood. If one thickness is not plenty, add others as needed.

R. Bradshaw (Manchester).—*Grains of sugar at hive entrance.*—This is caused by a little fault in the manufacture of the candy, some of the sugar has granulated too coarsely; possibly it was not thoroughly melted, or you commenced stirring too soon. After taking from the fire the sugar should be allowed to stand, *without stirring*, until the finger can be held in it without scalding. It will not harm the bees, but it wastes sugar.

You cannot supply 30 lbs. of stores from 10 lbs. of sugar, but the bees should have some stores of their own gathering. Do not disturb the bees during the winter more than to see if any candy given them has been eaten, and if so put on another cake. Look at them now and calculate the amount of stores as near as you can. A standard comb quite full on both sides contains about 5 lbs.

Miss Holland (Uppingham).—*Suitable food for bees.*—After September if the bees need food give soft candy. If you get a copy of "The British Bee-keepers' Guide Book" you will find recipes given for spring, autumn, and winter food.

H. B. S. (Yorks) and Others.—*Questions for preliminary examination.*—These are confidential and we cannot publish them, but we may say that there are none strictly on anatomy; but it is necessary for candidates to be acquainted with the life history of the bee from the egg to the perfect insect. The following further extract from the syllabus may make things clear:—

2. Oral questions relating to elementary knowledge of (*a*) the classification and natural history of the honey-bee; (*b*) healthy and unhealthy conditions of stock; (*c*) the recognition and treatment of diseases; (*d*) old-fashioned and modern methods of bee-keeping; (*e*) construction of frame-hives, "standard" and other frames, section racks, etc; (*f*) various means of securing surplus honey; (*g*) the most important points in the management of an apiary at different seasons of the year.

3. At the discretion of the examiner, evidence may be required of a practical acquaintance with the appearances of combs containing brood in conditions of health or disease.

Glendale (Glanton).—The insect was not a bee, but a fly, commonly known as the Drone Fly. The paper and fluff were part of the covering of the candy. This should be taken off when the candy is put on the hive.

Rustic (Glam.).—The plan would work. You would probably have to cut out queen cells in the top chamber. Try the plan given in the Journal of May 8, page 177.

Suspected Disease.

Miss G. M. Wood (Alton), J. Pettit (Woodgeir).—So far as we can tell the bees are not diseased.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

October 21 to 24, Dairy Show, Royal Agricultural Hall, London.—Particulars of the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1. **Entries closed.**

November 5 and 6, Honey Show at Cambridge in connection with the Eastern Counties Fruit Show. Open Classes.—Schedules, etc., from E. C. R. Holloway, The Rosery, Burwell, near Cambridge.

Special Prepaid Advertisements.

One Penny per Word.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

FOR SALE, ¾ cwt. of first prize Honey, 2s. lb. in bulk.—A. JACKSON, Elveden, via Thetford, Norfolk. v.12

TO CLEAR.—Thirty Section Racks, various measurements, price 1s. 6d. each and carriage.—Box 47, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. v.14

COTTAGE wanted by disabled soldier, to rent, in Wilts, Hants, or Dorset, suitable for bee-keeping. Can any reader of B.B.J. give information?—Box 49, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. v.29

HEATHER HONEY SECTIONS, few dozen, for Sale, 3s. 6d. each.—WALLACE, Bramhall, Cheshire. v.17

½ CWT. good coloured Honey, 2s. per lb.; six dozen ½ lb. bottles, screw cap, same quality Honey, 14s. per dozen; f.o.r.—MATTHEWS, 25, Clay Road, Crockenhill, Swanley, Kent. v.18

FOR SALE, Sainfoin Clover Sections, also finest Clover Honey, 14-lb. tins. — Particulars, NORTH, Cressing, Braintree, Essex. v.19

PURE English Clover Honey, granulated, £11 cwt.; sample 3d.—BUTTON, Castle Camps, Cambridge. rv.21

BEE BOOKS, new or old, wanted.—Lists and prices to MACE, Faircotes, Harlow. v.22

PURE ENGLISH HONEY, in 28-lb. tins, £10 per cwt., carriage paid; tins and crates returnable.—ROPER, Thorpe-on-the-Hill, Lincoln. v.23

EXCELLENT quality Cambs Honey for Sale in cardboard pots. Inquiries solicited.—THOMAS, "Rosario," Burwell, Cambs. v.24

FOR SALE, light coloured finest quality Honey, in 28-lb. tins, £10 cwt.—W. BARNES, Exning, Newmarket. v.25

WANTED, British Bee Journal, Vols. 1 and 2, and Vols. 1 to 1918, or any long run.—Please report to JOHN DAVIS, 13, Paternoster Row, London. v.26

PURE Cambridge Honey (guaranteed) in 28-lb. tins, 58s. 6d., tin and case free; sample 4d.—YOUNG, 42, James Street, Cambridge. ru.65

WILL all those who are not in favour of legislation please communicate with Box 48, Bee Journal Office, 23, Bedford Street, Strand, W.C.2. v.28

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive Douglas, Isle of Man.

A MAY, 1920, Penna Queen will be awarded to the sender of the most concise answer to the question we asked October 9. Mark letters, or postcard, "Queen." There is no catch to the question. —SMITH, 30, Maid's Causeway, Cambridge. v.27

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free. —F. RUMMING, 60, West Avenue, Oldfield Park, Bath. rv.6

DAIRY SHOW

AGRICULTURAL HALL, ISLINGTON, LONDON, N.

PATRON: H.M. THE KING.

October 21, 22, 23, and 24

(TUESDAY TILL FRIDAY.)

Great Exhibition of Cattle, Goats, Poultry, Pigeons, Dairy Produce, New and Improved Inventions, Butter Makers' and Milkers' Contests, Cheese Making, Poultry Trussing, and Food Bottling Demonstrations.

Inclusive admission on Tuesday, October 21 (Judging Day), from 8 a.m. to 6 p.m., 3s. (the Gilbey Hall and the Poultry and Pigeon Department will not open until 1 p.m.), and from 6 to 10 p.m., 1s. 6d.; on Wednesday, October 22, from 10 a.m. to 6 p.m., 2s., from 6 p.m. to 10 p.m., 1s. 6d.; and on Thursday and Friday, from 10 a.m. to 10 p.m., 1s. 6d. The Poultry and Pigeon Department and Gilbey Hall may be closed at 8 p.m. on the Friday.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

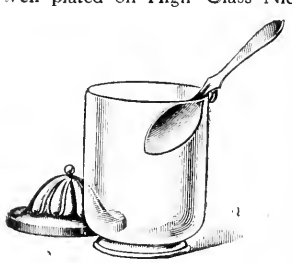
HONEY FOR SALE.

Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON ROWE, 28a, Moy Road, Cardiff.

Honey or Jam Spoon

Well plated on High Class Nickel, Will not fall into the jar, thus avoiding sticky fingers or spoilt table cloths. A neat and useful present. We have a few pairs in velvet lined cases for sale. 5/6 per pair. Post Free.



BRITISH BEE JOURNAL OFFICE,
23, BEDFOR[illegible] [illegible]ON, W.C.2

A B C AND X Y Z OF BEE CULTURE.

By A. I. and E. R. ROOT.

We have just purchased a dealer's surplus stock of the 1917 edition of this work. We have only a limited number, which we have been able to secure at a low price. While they last we are offering them to our readers at

13/- each, post free 13/9

All bee-keepers should possess a copy of this comprehensive work, which cannot be procured elsewhere under 16s. When this supply is exhausted the offer cannot be repeated.
BRITISH BEE JOURNAL OFFICE,
23, BEDFORD STREET,
STRAND, W.C.2.

Books for Bee-keepers

NOW IN STOCK.

		Postage
A.B.C. and X.Y.Z. of Bee Culture (ROOTS)	13/-	... 9d.
A Modern Bee Farm (S. SIMMINS)	7/6	... 6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	... 1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	... 1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	... 3d.
Dissectible Model of Queen Bee	4/6	... 3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	... 1d.
Fifty Years Among the Bees (DR. MILLER)	5/-	... 5d.
Honey and Health (A. HOPE) ...	-/6	... 1d.
Honey Vinegar (REV. G. BANCKS)	-/2	... 1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	... 6d.
Langstroth's The Hive and The Honey Bee	7/6	... 6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	... 2d.
Productive Bee-Keeping (PELLET)	10/6	... 6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.) ...	2/-	... 3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	... 2d.
Scientific Queen Rearing (G. M. DOOLITTLE)	3/6	... 4d.
Snelgrove's Method of Re-Queening	-/6	... 1d.
The "Townsend" Bee Book ...	2/6	... 2d.
WAX CRAFT (T. W. COWAN) ...	2/-	... 2½d.
Wilke's Book on Swarming ...	1/-	... 1½d.
MISCELLANEOUS.		
Maeterlinck's Life of the Bee	3/6	... 6d.

The Lore of the Honey Bee. By TICKNER EDWARDES. 2/-, postage 2d.

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

THE

British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary,

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

Seasonable Hints.

Bees should now be all packed down snugly for their winter rest. Any stocks that are not fixed up should be attended to at once. Do not forget to provide a winter passage across the tops of the frames. An appliance may be bought for this purpose, or a couple of laths about $\frac{5}{8}$ in. thick, and of a length suitable to the number of frames, placed across the top bars under the quilt, and three or four inches apart will serve. Where an adequate supply of stores is doubtful a cake of candy should be put on, and provision made for renewing it, when necessary, without any undue disturbance. Whatever the demerits of candy—and we look upon it as an "emergency ration" only—a cake of it will not only provide food, but a winter passage, as it is eaten away.

On sunny days it is well to keep a look out for robbing. Last Saturday and Sunday were warm, sunny days in our district. Sunday was especially bright and warm, and we noticed bees were testing the defences of many of the hives.

Cold, damp weather may now be expected, a combination that is against the bees. Both should be guarded against, the first by plenty of warm wraps, being careful that there are no direct draughts through the winter quarters. Bees will then live through a very low, outside temperature. Hives that are in an exposed situation will benefit by some description of "wind break." What is needed is not so much a solid wall, as something to break the direct force of the wind. Damp is more to be feared than cold, therefore be certain that the hives are rain-proof. Should the quilts be found damp at any time during the winter, they should be dried, or replaced by dry ones.

For the rest, fix all up so that there is no necessity to interfere with the hives during the winter months, beyond occasionally, on a warm day, to lift off the roof to see that the wrappings are dry, and the supply of candy is not exhausted. Make the hives secure against mice, both at the top and bottom, ventilation holes in roof, and the entrance—this should be not more than $\frac{3}{8}$ inch high.

Secure the hive roofs against the rough winds of winter. We prefer one of two methods. In exposed situations drive a stake at each side of the hive, tying a cord to each one and across the roof. The other plan, which we adopt, is to drive a stake at one side only; one end of a cord is secured to this, and at the other end is a brick or stone, which is hung over the roof.

A general tidying up of the apiary and bee house, repairs to appliances, painting, cleaning shallow frames, boxes and section racks, putting together frames, etc., ready for next year, and other jobs, may occupy spare time during the winter months. If it is desired to move any hives to another stand, a good plan is to prepare and level the sites now. When cold weather has confined the bees to their hives for a couple of weeks they may be gently carried to their new location.

Mr. W. Herrod-Hempsall is away from home for a fortnight, and will be unable to attend to correspondence during that time.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, October 16, 1919.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Sir Ernest Spencer, Messrs. J. Smallwood, G. Bryden, G. R. Alder, T. Bevan, G. S. Faunch, J. Herrod-Hempsall, G. J. Flashman, G. W. Judge. Association representatives: R. R. Babbage (Middlesex), G. Thomas (Glos.), E. Ff. Ball (Bucks), Rev G. H. Hewison (Doncaster), P. E. Wagstaff (Hertfordshire), A. Bliss (Leicester) and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Messrs. W. H. Simms, C. L. M. Eales, F. W. Watts, and F. W. Harper.

The following new members were elected:—Mrs. R. Murray, Messrs. H. C. Hardy, G. B. Stewart, C. Louch, and A. H. Garrod.

The Salisbury and District Association applied for affiliation and were accepted.

The report of the Finance Committee was presented by Mr. J. Smallwood, who stated that the receipts for September were £32 15s. 3d., the bank balance on October 1 was £79 16s. 2d. Payments amounting to £15 15s. were recommended.

The report on the preliminary examinations was presented, and it was resolved to grant certificates to Messrs. A. Burton, E. Fox, G. W. Fox, T. Rees, D. Jones, E. A. Cowley, R. Lloyd-Roberts, D. W. Jones, and D. Owen.

The Chairman, in presenting the report on the lecture test for final certificate, said that they had been hard at work from 2 o'clock until 4.30 examining the

candidates who had successfully passed the paper work for the final certificate, and the Board were unanimous in recommending the Council to grant expert certificates to Miss M. Whyte-Johnstone, Rev. G. H. Hewison, Major C. C. Lord, Messrs. F. L. Wilson and A. Briers.

After a long discussion it was proposed by Mr. G. Thomas, seconded by Sir Ernest Spencer, and carried unanimously, that the following resolution be substituted for that passed on December 19, 1918:—

> "That the official published report of the proceedings of the Council being necessarily abbreviated, delegates may amplify them when reporting to their Associations, except when otherwise decided."

Next meeting of the Council, November 20, 1919, at 23, Bedford Street, Strand, London, W.C.2.

Jottings from Huntingdonshire

What a perfectly glorious autumn! Here we are within a fortnight of November, and enjoying a magnificent second summer—St. Luke's summer? Yes, and more. How often does one go out on the 18th of October and see the pastures scorched up as if the dog days were upon us and see only the faintest carpet of fallen leaves? I went for a short stroll this afternoon and was held spell-bound by the glorious tints on hedges and trees. The dark green of the myrtle, and the rich green of the maple were a pleasing contrast to the varying hues of ash, hawthorn, guelder-rose and the bramble. Faint orange, deep orange, gold and copper were all showing forth their autumn beauty in the October sun. The oaks are both pale yellow and green, while the elms, which shot their leaves last of all this year, have hardly begun to change their colour. Winter might be months away. Alas! it is near—nearer than some of us like to think. Only a few lingering swallows remain, while more thrushes than ever seem to have migrated. The fieldfares have been back from Norway a fortnight now, and are foraging in greater companies than usual. Yes, there's some sharp weather in store, but the winter will not be a long one. The songsters will be back ere February appears, and begin to look out for mates and nesting places in preparation for an early spring.

I have been away for a day or two into Leicestershire, the attraction being the Church Congress. I cycled back to-day, and incredible as it seems, I did not see one beehive in the whole distance of over 40 miles. No doubt there were one or two tucked away somewhere, but how different to years ago! Who could have, say, a dozen years ago, passed through village after village without seeing a skep in almost every other cottage garden? Why not now? Surely, bees in a skep are better than none at all. One fears that "Isle of Wight" disease has emptied the skeps, and their owners have lost heart, being unwilling to start again, and perhaps unable to take up bar-frame hives. This reminds me. Some of our notable bee-keepers take exception to my oft-expressed desire to see a beehive or two in every garden. I am, it appears, going against the interests of those engaged in bee craft, since if every garden had a hive, honey would not pay to produce. If my good friends' heads do not ache until England's markets are glutted with honey and beeswax, they will have a pretty comfortable time in the region of their upper storey. Why not encourage everyone who is keen on bees to keep a stock? Why not say to the man who has lost his stocks through disease: "Cheer up! try again with disease-resistant bees; there's money in it, so start off at once." I am quite ready to agree that it is better for a few people to keep bees who thoroughly understand them, than for many to keep them who don't: but why should not the many learn all there is to know on the side of scientific bee-keeping? What we are up against is not so much a multitude of stocks scattered over the countryside, but the appalling ignorance which prevails among the old-time skeppists. When it becomes an offence against the laws of the realm to keep diseased bees, and to leave skeps and hives in which bees have perished from disease unprotected, we shall begin to hope for better things. The higher ideal, however, is to so educate all bee-keepers that they will report signs of disease to an expert, not because of fear of his majesty the law, but from principle, and conscientiously follow his or her advice.

Some few weeks back I mentioned the *tee*-tree, and, oh, the number of people who have written asking me for cuttings! It happens that it is quite common in many parts of the country, and I am anxious to discover its botanical name so as to enable my correspondents to get hold of roots. Let me give a description. It has willow-shaped leaves, light almost silver-coloured bark, grows naturally as a climber, but when kept pruned back bushes out and mats itself into an impenetrable hedge. It glories in the company of hawthorn, therefore is an excellent gap-stopper. There are three varieties flowering white, blue, and purple respectively. The flower is not unlike a bird's eye, coming out in early spring and being followed by a succession of blooms

until the autumn. Another local name is "the Moonbush." Tee-tree, by the way, is a corruption. It was originally known as tea-tree, natives taking the leaves, drying them, and using them as a substitute for tea. Perhaps from this description some reader can gives its botanical name.

Do bees know when their master is away? Mine seem to get up to mischief when I am absent for a day or two. I returned this time to find a great commotion outside one of my Dutch stocks —Ligurians, Golden Italians, Hybrids, were all in the crush, of course robbing, and the thieves had sneaked fully half of the Dutch stocks' winter store. I got my Izal syringe at work round the mouth of the hive and the rogues began scuttling off like naughty boys from the man in blue. Shame on the Ligurians, for they have loads of store. Ah, well, they will just have to give up a sealed comb to those they have robbed. I have just related this to an old woman. "Ah," she says, "that'll learn 'um." Will it? I "ha' me doots."—E. F. HEMMING, Steeple Gidding.

Frames.

The British democrat of to-day has made up his mind that he is the "boss," not the Government. He is!

Collectively as an immediate striking force he doesn't count, because so long as matters progress smoothly, he is content. But then, other things happen.

Time passes and things change inevitably somewhere. No change of a noticeable character arrives, but will as inevitably permeate and disturb relations, more or less. If it merits approval in its first limited circles it gathers force. It has its acceptor's backing. It will also have its detractors; those who feel it is an undesirable.

But if intrinsically its merits are sound, detractors back the wrong horse. Either change has established itself in a direction in which it will thrive, or made its own place, or, it peters out, disappears, or is absorbed by the established conditions. But if sound and worthy, no amount of obstruction will stay it coming into its own in the end.

A newcomer not necessarily wipes out a predecessor. There may be field for both, often is, and what is wrong here may be right there. Shall we bar the whole field of activity to either because neither satisfies or fits the whole? Nor can we condemn the one in possession in that sphere it satisfactorily serves, nor a newcomer who carves out a similar distinction. Both are good in their own sphere.

Then let us have two standard sizes of frames, by sanctioning the new one to those who value it, and leave undisturbed the old one in like respect. Put to the test by this solution the opinions of both sides. Then issue an official standardisation decision; not based merely on one size being in stronger force, but whether both are worthy to cover the field. Both claims may be thoroughly well justified.

Justice, holds the scales even to all, says not "what was yesterday, is to-day."

Standardisation for uniformity involving stagnation of progress is the wrong sort of standardisation. Admission of but one unit as a fit condition in standardisation, to the exclusion of all others, imposes stagnation upon progress when others are knocking at the door. The one standard unit can exist too long as sole representative. Such is the case now. That is not justice.

The black bee is not alone the bee of to-day, nor was it wholly so yesterday. But it is less to-day than ever it was, while the hybrid never had the affection of the bee-keeper enjoyed by a pure race, be it black or yellow. The battle of the frames is over to-day's jointure of the black and yellow, though the hybrid will persist throughout and pull with the yellow.

The yellow claim is now a very strong one, and if it can be rightfully given a place in the industry to-day—no one seems to challenge it—its claim to suitable accommodation breaks the exclusiveness of standardisation as it is.

That is the philosophy of the democrat. He wants what he asks only because he is convinced of the need, and sees no reason why he should be called upon to wait for a majority. Progress never bounced in with majorities for a beginning, nor is it necessary that a progressive move shall always at any stage be in a majority.

But assume he is the fool of the piece. Then give him the chance demanded by all fools—to learn in the school of experience. He may not be such a fool after all. And that school is not without 16 by 10 framers now.

Then standardise, tentatively at least, the larger 16 by 10 frame. Present supers are adaptable by simply fitting a bee trap front and back as is already done to the front of most W.B.C. brood chambers. 16 by 10 brood chambers go *over* standard brood boxes and supers without any change. There is thus no disturbance of current equipment to work well with the 16 by 10. The Hoffman frame of the Langstroth hive, $17\frac{5}{8}$ by $9\frac{1}{4}$ by $18\frac{3}{4}$ top bar—a weird collection of dimensions —is about the same comb area, but would disturb the whole of our present inner

furniture to fit it. Its only recommendation is its mass production in America; not enough to displace our 16 by 10.

If this were done, some at least—I for one—would cater for both units of the standard with more assurance than is at present possible or advisable. In other words, the British standard is my standard for general purposes only because it is forced upon me. That in turn forces a standard on clients which in no way stands to the moral credit of the single unit standardised.

But, say, British standardists, suppress the yellow bees, hybrids, and Dutch; give us a good old British black which will stand up so well to disease, surplus production, and breeding propositions, and we'll subside! See it?—M. ATKINSON, Fakenham.

Nosema Disease.*

(From *The Review of Applied Entomology*, September, 1919.)

Full particulars are given concerning the cause, symptoms, modes of transmission, diagnosis and prognosis of Nosema disease in bees, with the results of experiments made to determine the resistance of *Nosema apis* to heating, drying, fermentation, putrefaction, direct sunlight, and carbolic acid.

The following is the author's summary :—

(1) Nosema disease is an infectious disorder of adult bees caused by *Nosema apis*.

(2) The disease is not particularly malignant in character, being in this respect more like sac brood than the foul broods.

(3) Adult workers, drones and queens are susceptible to infection, but the brood is not.

(4) The infecting agent, *Nosema apis*, is a Protozoan that attacks the walls of the stomach and occasionally those of the Malpighian tubules.

(5) A colony can be inoculated by feeding it with syrup containing the crushed stomachs of infected bees.

(6) One-tenth of the germs present in a single stomach are sufficient to produce marked infection in a colony.

(7) Within a week following the inoculation the parasite can be found within the walls of the stomach.

(8) Before the close of the second week infection can be determined by the gross appearance of the organ.

(9) The disease can be produced at any season of the year by feeding inoculations.

(10) Infected bees may be found at all seasons of the year, the highest percentage of infection occurring in the spring.

(11) Nosema infection among bees occurs at least in Australia, Switzerland, Germany, Denmark, England, Canada, and the United States. This distribution shows that the occurrence of the disease is not dependent altogether upon climatic conditions.

(12) The course of the disease is not affected directly by the character or quantity of food obtained and used by the bees.

(13) A sluggish body of water, if near an apiary and used by bees as a water supply, and the robbing of diseased colonies, must be considered for the present as two probable sources of infection.

(14) The transmission of the disease through the medium of flowers is not to be feared.

(15) The hands and clothing of the apiarist, the tools used about the apiary, and winds need not be feared as means by which the disease is spread.

(16) Hives which have housed infected colonies need not be disinfected, and combs from such colonies are not a likely means for the transmission of the disease.

(17) Bees dead of the disease about the apiary are not likely to cause infection unless they serve to contaminate the water supply.

(18) *Nosema apis* suspended in water is destroyed by heating for ten minutes at about 136 deg. F. (58 deg. C.).

(19) Suspended in honey, *Nosema apis* is destroyed by heating at about 138 deg. F. (59 deg. C.).

(20) *Nosema apis*, drying at room and outdoor temperatures respectively, remained virulent for about two months, at incubator temperature about three weeks, and in a refrigerator about 7½ months.

(21) *Nosema apis* was destroyed in the presence of fermentative processes in a 20 per cent. honey solution in three days at incubator temperature and in nine days at outdoor temperature. In a 10 per cent. solution it was destroyed in from seven to eleven days at room temperature.

(22) *Nosema Apis* resisted putrefactive processes for five days at incubator temperature, for two weeks at room temperature, and for more than three weeks at outdoor temperature.

(23) *Nosema apis*, when dry, was destroyed in from 15 to 32 hours by direct exposure to the sun's rays.

(24) *Nosema apis* suspended in water was destroyed by exposure to the sun's rays in from 37 to 51 hours.

(25) *Nosema apis*, if suspended in honey and exposed to the sun's rays frequently, will be destroyed on account of the temperature of the honey which results from the exposure.

* White (G. F.), Nosema Disease, U.S. Dept. Agric., Washington, D.C., Bull. No. 780, June 12, 1919, 59 pp., four plates, seven figures.

(26) *Nosema apis* remained virulent in honey for from two to four months at room temperature.

(27) *Nosema apis* in the bodies of dead bees ceased to be virulent in one week at incubator temperature, in four weeks at room temperature, in six weeks at outdoor temperature, and in four months in a refrigerator.

(28) *Nosema apis* in the bodies of dead bees lying on the soil ceased to be virulent in from 44 to 71 days.

(29) *Nosema apis* is readily destroyed by carbolic acid, a 1 per cent. aqueous solution destroying it in less than 10 minutes.

(30) The time element which by the experiments is shown to be sufficient for the destruction of *Nosema apis* should be increased somewhat to ensure their destruction in practical apiculture.

(31) The prognosis in *Nosema* disease varies markedly from excellent, in case of strong colonies, with a comparatively small percentage of *Nosema*-infected bees, to very grave in case of weak ones with a high percentage of infected bees.

(32) From a technical point of view the results here given must be considered as being approximate only. They are, however, in most instances sufficient for practical purposes.

Stray Notes, Comments and Questions.

If it is certain that bees work the flowers of garlick, leek, and onions as a tonic (Rev. E. F. Hemming, p. 430), why do they resort to the moisture from manure heaps when abundance of pure water is available near by? I would like to ask my brother why he is *certain* bees work the above-mentioned flowers as a *tonic*.

I thank Mr. Walker (p. 432) for the information *re* the stock that yielded 190 lbs. surplus this year, and look forward eagerly to the results of the experiments on "Isle of Wight" disease. According to the Scottish authorities (p. 447) this disease is not caused by *Nosema apis*. I have not yet made its personal acquaintance, and do not long to do so, the reason being I have not kept bees for some years (until this year). I saw a case in Aberdeenshire last year at a friend's. I have since heard that her four stocks succumbed this spring, despite being re-queened with imported Italians.

It is astonishing the number of queen cells bees will sometimes build under the swarming impulse. I cut out a large number, some ripe and others only just sealed over, from a hive of Italians this season. I ceased to count after twelve, but I should think Brig.-General Tudway's twenty-six is a record. I put two or three of the ripe ones referred to above on the bench of the potting shed where two immediately released themselves and crawled about, often meeting, but never offering to fight. Only once have I seen young queens fight under similar circumstances. On one occasion, years ago, I was called to return a swarm for a neighbour. I cut out a dozen queen cells, putting them into my coat pocket. About five minutes after two young queens were crawling over my coat. On taking them indoors and putting them on the table, they immediately started a battle royal, which lasted about twenty seconds, when one succeeded in giving the fatal thrust. The effect on the one stung was almost instantaneous. In about another twenty seconds it was apparently stone dead. I have often tried the experiment since with newly hatched queens, but they have always declined to fight, and only once have I succeeded in getting old surplus queens taken from driven bees to do so.

I was at Altrincham Show on September 24. The quality of the honey was good if the quantity was lacking. I considered the quality of the exhibits of wax as most excellent. The class for observatory hives attracted a number of people. The weather being cold, and in the afternoon wet, the queens were most of the time under the cluster. The second prize exhibit was from Bowdon Church School. I thought it an excellent idea for an apiary to be run by school boys and girls. This school evidently has a school garden, as I noticed they also had exhibits in the fruit and vegetable classes, a most excellent example for schools situated in favourable localities.

The foregoing comments are belated. I got my issue of October 4 after this week's October 9, owing to the railway strike. *Re* my kinsman of Steeple Gidding's remarks in the current issue of the B.B.J., I do not think it proved that bees prefer blue flowers. I do not think Lord Avebury would have considered it proved either. It is the opinion of great authorities that they do; of lesser lights, that they may, but the case is not yet proven. I do not profess to know anything about the bee-keeping of those ancient people the Hittites and Amalekites, but I would venture the opinion that the honey from flax might be a slight opiate. I have noted that bees at times seem to be overcome by the nectar of the red flax (*Linum rubrum*). A whole field of flax in flower is one of the sights I have yet to see.

Again, I do not consider that my reverend kinsman's argument that the larger fruiting of the field of beans south of his apiary proves that his bees preferred that one to the field to the north-

west, for every gardener knows fruiting depends on many things besides pollination. Mr. Franklin's remarks *re* the prevailing winds are very *apropos* of the question.

I think I shall have to give Mr. Kettle's yarns a miss, or I shall be more than ever longing for a Dorset farm and its milk and honey: it is so unlike this corner of Cheshire, with its cold winds and grime and smoke. I have rambled on, Mr. Editors, to great length. If too long you will have to use the blue pencil freely.—D. J. Hemming, Runcorn.

The Care of Bees.

In view of the unfortunate fact that some bee-keepers do not pack their hives properly for winter and do not see that the stocks have ample stores, it is well to know that the whole problem of bad bee-keeping is receiving the attention of the Board. The Horticultural Section is giving consideration to the question of asking for legislation to protect the competent and careful apiarist from the man who neglects his stocks and leaves them to the mercy of "Isle of Wight" disease, moth, foul-brood, and other troubles that may affect not only his own hives but those of his neighbour.—Board of Agriculture Weekly Service.

Bath Bee-Keeper's Claim.

A SWARM WHICH ALIGHTED ON A HEDGE. WHO WAS THE OWNER?

A case of interest to bee-keepers came before his Honour Judge Gwynne James, at Bath County Court, on Oct. 9, when James Batstone, baker, of Fairfield Park, Bath, claimed £9 from Herbert (Albert) Rumming, Queenswood Avenue, Fairfield Park. Plaintiff's claim was for the value of a swarm of bees belonging to him. They swarmed in a hedge on his premises, and defendant was alleged to have seized and taken possession of them and to have retained them.

Mr. F. Wilshire (Bristol), instructed by Messrs. Titley, Long, and Lavington, appeared for plaintiff, and Mr. A. E. Withy conducted defendant's case.

Mr. Wilshire briefly outlined his case, and replying to his Honour, said defendant had no land there, but came across some allotments to get to plaintiff's hedge, into which the bees swarmed.

His Honour: The hedge is plaintiff's?

Mr. Wilshire answered in the affirmative, and said the ditch which defendant crossed to reach the hedge was also plaintiff's.

Plaintiff said he held the lease of Bay Farm, Larkhall, and had 14 years to run. He pointed out on a map where his ten hives of bees were kept, and also the hedge in question. Defendant kept bees previous to being called to the Army. A fortnight before the bees swarmed in June defendant asked plaintiff if he had bees to spare, and he said he had not. He had had five swarms this year, two in May and three in June. On June 15th he missed a swarm, and in the evening walked round the field and saw that a swarm had been taken off the hedge. One hive swarmed the previous day, but they went off to The Grange, whence they went off again. The hedge into which the bees swarmed on June 15 belonged to plaintiff, and the ditch between the hedge and the gardens of houses was also plaintiff's. The swarm of bees he lost was a cross between an Italian and a hybrid. He gave £10 two years ago for two hives of Italian bees. In his claim he allowed for the 40 lbs. of honey he would have had if he had had the swarm. Bees had for some years been more costly owing to the "Isle of Wight" disease.

By Mr. Withy: Apart from the honey he was expecting from the swarm, the value of the bees was £5. Three frames of bees and a queen in the swarm would be worth 30s. The value of bees depended upon the number of frames. He did not see the bees swarm.

Detective-Inspector W. Marshfield said on June 15 he was at home and in the evening saw defendant step across the ditch to the hedge from which he took the bees.

By Mr. Withy: The swarm was in about the middle of the hedge.

Mr. Withy submitted that he had no case to answer as plaintiff had not proved that the bees were his property.

His Honour considered there was *prima facie* evidence that they were. He had no evidence that any other hives swarmed in that neighbourhood, or that there was another hive except at an unknown distance.

Mr. Withy said a man lost his qualified property in bees when they left the hive unless he kept them in sight, and he submitted that in order to maintain his qualified property in the bees he must follow them and not lose sight of them, and that a man could not even acquire qualified property in bees because they had settled on his land.

Mr. Wilshire said his first proposition was that bees swarming and flying out of plaintiff's hives were his so long as he could keep them in sight.

His Honour: In this case he did not.

Mr. Wilshire: He has power to pursue

them, and in these circumstances no one else was entitled to take them.

His Honour inquired if Mr. Wilshire could submit any case where they had been held when the bees were not followed in sight.

Mr. Wilshire quoted extensively from decisions bearing on the point in question, and others bearing on the claim, and considerable argument ensued between his Honour and counsel, his Honour, in the course of it, pointing out that the swarm in question had never been in plaintiff's sight. He could not get further than that one maintained his qualified property in bees if he kept them in sight.

After his Honour had spent some time in perusing long judgments,

Mr. Wilshire submitted that a trespasser could not be in a better position than the owner of the land upon which he trespassed.

His Honour: You are not bringing an action for trespass.

Mr. Wilshire: Being on our land we claim that they are our property.

EMPEROR JUSTINIAN'S LAW.

After further argument, his Honour gave judgment. He said he would assume for the purposes of his judgment that that swarm flew from plaintiff's hive about a hundred yards, and lodged in a hedge which was the property of plaintiff. He would assume also, in favour of plaintiff, for the purposes of his judgment, that defendant took that swarm which came from plaintiff's hive. Could plaintiff recover? The law, he thought, was absolutely clear on that point. It had been clear for hundreds of years because in reference to wild animals—and bees—the law was laid down by the Emperor Justinian, and he would read the translation of that law: "A swarm of bees which has flown from your sight is still considered yours as long as it is in your sight, and may easily be pursued. Otherwise it becomes the property of the first person who takes it." In this case the swarm had never been in the owner's sight; it was a hundred yards from its home; it was never seen by plaintiff on leaving the hive, on its way, or when it was taken. He turned to the original Latin and found that "the swarm which has flow from your hive is still considered yours—*donec in conspectu tuo est*—as long as it is in your sight," not as Mr. Wilshire asked him to say, "as long as it may be in your sight or can be in your sight." If it left the owner's sight, his property in it was gone, although he might recover it, but if anybody else found and took it, it belonged to him. That was the law as passed at the time of the Emperor Justinian, and it was still the law of England to-day. He was asked to say that the owner had qualified property in a swarm of bees which left his hive, although he did not see it go. He could find no authority for the suggestion. It appeared to him that the law was as it was hundreds and hundreds of years ago, that one lost the property in a swarm of bees if he did not immediately go after it and catch it while it was in his sight. If he did not do that and somebody else got it, it became the property of the person who got it. Whether there was trespass committed in that case was an entirely different question. It did not arise in the action before him because there was no claim for trespass, but only for the wrongful seizure of the bees. There must be judgment for defendant. At the commencement of the hearing Mr. Wilshire asked to be allowed to submit an alternative claim for trespass, but his Honour declined to allow the plaint to be amended. —*Bath and Wilts. Chronicle.*

[The foregoing case has been of great interest to bee-keepers, and we thank those of our readers who have sent us a number of cuttings. Several, in addition, ask for our comments. We are not versed in the law, but it proves what we have several times remarked when asked our advice in regard to the ownership of absconding swarms, viz., that if a case is taken to court all depends on the view the judge takes of it. We have no doubt the judge's decision in this instance is strictly in accordance with the law, but, as one correspondent has said, the law should be altered so that a swarm of bees on the premises, and near to the apiary, of a bee-keeper should be his property, unless, of course, another bee-keeper has seen the bees issue from one of his hives and has kept them in view until they have clustered.

Under the interpretation of the law as given in this instance it would appear it is open to any passer-by, seeing a swarm of bees in a garden or orchard which have swarmed from hives situated therein, and clustered even within a few yards of the hives, to step in and collar them, the rightful owner having no remedy, except for trespass, if he had not actually seen the bees leave the hive and cluster. This, needless to say, would not be the view of anyone with a sense of right and justice.—EDS.]

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of September, 1919, was £22,098. —From a return furnished by the Statistical Office, H.M. Customs.

Frames.

[10020] With reference to my letter of September 15, which you were good enough to publish October 2 (10,004), I fear my own writing misrepresented what I wanted to say. I was thinking of those correspondents to THE BRITISH BEE JOURNAL who have announced their intention of using two or more sets of shallow frames for brood purposes, and did not mean that you had suggested such a thing.

I have thought also that those who intended using two brood boxes per hive for breeding were making rods for their own backs, or were extraordinarily fond of unnecessary hard work. Fancy lifting off the upper standard brood box, which, in many cases, would be full of honey, from each hive before finding the centre of gravity of the life of that hive?

What I wanted to get at was the best arrangement for general utility, and I still feel that a box of 12 large frames is to be preferred rather than two brood chambers superimposed.

Then the question naturally arises, "If that is so, what is the ideal size for the frames?" And I ask you, gentlemen, do you honestly think it will ever be really settled—I mean the correct answer to that query?

The reason why Mr. Manley dropped on the "Commercial" frame was because it can be obtained from most appliance dealers in this country, and also because it answered the purpose.

There is a considerable difference in the possibilities of good wintering on "Commercials," as compared with the proposed 11½ in. Standards, and this lies in one fact, or what I believe to be a fact. I have found that the cluster of bees early in the winter is to be found at one end of the combs, and during the winter they seem to move along them, that is, from one end of the combs to the other, and generally keep between the same combs the whole of the time, that is, they clear the stores as they gradually move along. When they reach the other end they have to "go seek" their food on other combs, and if the weather is wintry there is a good chance of some winter losses.

We will suppose, for instance, the cluster in November is at one end of the combs, and is 7 inches in diameter, they will have 7 inches to travel (on the Standard frame of comb) before having to move to other combs for food. Let us also suppose that this takes seven weeks, and will hold the population in comfort till middle February (perhaps), there is still some distance to go before winter is past, but with the "Commercial" 16 in. frame it would be quite a fortnight later before there would be any necessity for the bees to make a move out of their winter quarters to get food.

Many users of the 16-in. frame have told me how well bees winter on them as compared with the 14 in., and the foregoing is what seems to me to be the reason. However, a test of the proposed deeper 14-in. frame will show whether it is or not.

Notes from Somerset.—I did not intend giving you so much of my drivel at one dose, but under the above heading Mr. Walker makes just one or two remarks which need answers. First, he says, in effect, that here in the south of England in the fruit districts, the best honey flows are before the end of May. This is one of the best fruit districts in the south-west of England, and yet our best flow is usually from white clover.

The same writer says that he beat all previous records for this part of England in 1917 with a surplus of 308 lbs. from one hive. Will Mr. Walker please note that in 1913 five stocks yielded an aggregate surplus of nearly 12 cwt. I kept record of what I took from the best stock until it reached eight supers of 64 shallow, one box of ten standard frames of comb, and 27 sections, all full, and then lost count. After all, I wonder who does hold the record "take"?—J. J. LIVERTON.

[10021] The point seems to be, among a number of bee-keepers there is a desire for a larger frame. The B.B.K.A. ought to recognise this, experiment, and recommend a new size accordingly. Instead they seem to be, to say the least, mildly antagonistic. Mr. Manley and others recognise the large frame is coming, and, as it would be a pity if a multitude of sizes got into use, are out to standardise the 16 in. by 10 in. He is somewhat dogmatic on this size, mainly, I believe, because it is to some extent in use and already on the market.

The last two seasons I have used one of my hives with a brood nest 16 in. by 14 in. by 14 in., and the results have been a revelation. No more small hives for me. The question, then, is, am I to continue my composite hive or go in for larger frames? I have explained my method to Mr. Manley, and he agrees it "may be all right for a few hives . . . but will not do for a large apiary."

Here is my method, if anyone wants to try it. Hives, "Conqueror" principle, with 11 standard frames. When bees re-

quire more room in spring put a super of shallow frames *under* till occupied by bees. Then remove it on top, its place to be taken by a box of shallows, this time with drawn-out combs (if any standard combs have too many drone cells I cut them down for these and substitute 5½ in. for 8½ in. ends). Wedge this up to meet the standard, and there you have the equivalent of a 14 in. by 14 in. frame, and without the vacant space objected to by Mr. Stich, as the top bar of the shallow *touches* the bottom bar of the standard.

Towards the end of honey flow the under chamber is put on top for the brood to hatch. It is then used for surplus, which is extracted. Withdrawing the wedges lowers the shallow on to its guides, thus separating the two chambers if it is necessary to manipulate.

In making a change I was inclined to fancy the 14 in. by 11 in., but before deciding I will alter two of my hives and use one next season with the 14 in. by 11 in., and the other with 16 in. by 10 in. alongside my 14 in. by 14 in., and compare results. At the same time I will give a Dutch lot the run of a 14 in. by 14in. and see if my "Conqueror" will conquer their swarming propensities.

For the sake of uniformity, can't you advise your readers? If you are satisfied with the standard, stick to it. If you want a larger frame, try the 16 in. by 10 in. This will not prevent individuals trying any other size their fancy may suggest, but it would *standardise* two sizes —THOS. GREIG.

Support Your Journal.

[10022] Editorial explanation *re* the strike and the B.B.J. (October 9) contains a significant notification which may pass unheeded: "We printed nearly the same number as usual"! What does that mean?

Past experience in a large correspondence reveals to me many worthy apiarists who engage in discussing subjects which have received much attention in the JOURNAL'S pages during the winter months. I, as a "full time" supporter, am conversant with all that has been published, while a correspondent frequently is not. Discussing such subjects soon reveals that I am writing of one thing, my correspondent of another, and only ends in my asking, "Why don't you take the JOURNAL *all the year?*" Our bees are still alive and doing something all through the winter. Can we not do likewise and continue active interest in apiculture by study of the JOURNAL'S pages in what is a "close season" for outdoor affairs only?

Perhaps the editorial "nearly . . . . . as usual" may refer to other circumstances, but, whether or not, I am thinking this subject is a live one and another "hardy annual" which deserves bringing to notice, but somehow gets overlooked, and so blooms not.

Next to overhauling his equipment, the importance of overhauling current literature as it is issued should be apparent to everyone who subscribes at all to this or any bee periodical serving the interests of the fraternity.

Help yourselves, help your industry, encourage your Editors, by continuing for a mere 2d. per week what is in bare truth an assurance from which you must reap a full return in a wider knowledge of the problems of your craft, if not also valuable help in your own particular troubles when the season arrives in due course which puts your knowledge to test. It's worth it.—M. ATKINSON, The Bee Park, Fakenham.

Excessive Swarming.

[10023] In the first place allow me to apologise to Mr. Manley. It appears he only referred to the natural tendency of even the best strains of bees to swarm occasionally, and not to any bad habits of this kind on the part of his own bees. I congratulate him on being able to state that his bees are free from Dutch blood.

To my mind the introduction of the Dutch bee into these islands constitutes a serious evil, and it is certainly responsible for much of the excessive swarming we hear about. Re-stocking apiaries everywhere—at least, in their early stages —must have flooded the country with undesirable Dutch drones. Unfortunately the Dutch bee is so similar in appearance to our native bee that it is often impossible to tell the difference, and quite impossible when the two varieties are crossed.

Mr. Keeping (10,018) is certainly troubled with an admixture of Dutch blood in his bees. It is little use advising him to change his system of management. Excessive swarming depends far more on the strain of bee than anything else. The only thing to do is to kill the queens and replace them with others free from Dutch blood and bred from stocks known to swarm but little. He should also prevent the rearing of drones, or else trap them, in these undesirable colonies.

One further piece of advice. It is waste of labour to cut out queen cells when returning swarms unless you can be sure of cutting out *all*. To secure this, shake the bees off each comb on to the alighting board, and then you can see the cells and will not miss any. When all have been removed, return the swarm with its queen in the usual manner. Of course, this shaking injures the queen cells, but that does not matter if they are

to be destroyed. If desired to save any, cut these out carefully and deal with them first; then proceed to shake the combs one by one, cutting out cells and replacing comb in the hive, and so on, till all are done.—L. ILLINGWORTH.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

T. M. H. (Shrewsbury).—*Coloured illustrations of different races of honey bee.*—There is no publication giving these.

"B" (Reedness).—*Keeping bees indoors.*—Bees may be kept in a disused cottage. The entrances of the hives should be outside, and then very few bees will be lost by flying against the inside of the windows. (See reply to "Regular Subscriber" last week.)

The entrance may be closed with perforated zinc, in which a space is cut allowing only one bee to pass at a time.

MRS. S. P. SCOTT (Ashford).—*Moving bees.*—See "Seasonable Hints."

J. W. JACKSON (South Shields).—The bees were smashed flat; they should have been sent in a box. So far as we could see they were natives.

W. W. HORNE (Leek).—*Feeding honey to bees in winter.*—You can do this by giving a section of sealed honey over the feed hole, or a bottle of run honey that is firmly granulated.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

October 21 to 24, Dairy Show, Royal Agricultural Hall, London.—Particulars of the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1. Entries closed.

November 5 and 6, Honey Show at Cambridge in connection with the Eastern Counties Fruit Show. Open Classes.—Schedules, etc., from E. C. R. Holloway, The Rosery, Burwell, near Cambridge.

November 25 and 26, Barnstaple Great Open Show.—Poultry, Pigeons, Cage Birds, and Horticultural Produce, including Honey (three classes).—Schedules post free from the Hon. Secretary, Wm. E. Hart, Devon Seed Stores, Barnstaple.

THE

British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary,

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

Special Prepaid Advertisements.

One Penny per Word.

Trade advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1½d. per word as "Business" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 6s. per inch.

PRIVATE ADVERTISEMENTS are only intended for readers having* Surplus Stock *to dispose of.* Driven Bees, Nuclei, *and* Queens *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

TAYLOR'S OBSERVING HIVE, £2; Abbott's Fairlawn Hive, £1 10s.; Meadow's "X L All" Hive, £2; all carriage paid.—ABREY, 1A, King Street, Melton Mowbray. v.30

FOR SALE, 3 cwt. pure Honey, light, good quality, £10 cwt.; sample 4d.; 2 cwt. medium, £9 10s. cwt.; 1 cwt. dark, 1s. 6d. lb.—SULMAN, School Lane, Wilburton, Ely, Cambs. v.31

FOR SALE, 2½ cwt. Clover Honey, placed fourth at Grocers' Exhibition, £11 cwt.—CANDLER, Wimbish, Essex. v.32

SALE, two Canadian Rapid Feeders, new, 5s. each; large size Wax Extractor, 10s.; chain geared Honey Extractor, in real good order, 35s.—AVERY, Deverill, Warminster. v.33

PURE English Honey in bulk.—Particulars, BUTLER, West Road, Histon, Cambs. v.34

"CONQUEROR" pattern Hive, January, 1919, strongly made, calico covered roof, disinfected and repainted, complete with brood and three shallow drawers, 58s., f.o.r.—REV. N. BURGESS, Knighton-on-Teme, Tenbury, Worcs. v.35

FINEST English Honey, £10 per cwt.; sample 3d.—DUTTON, Terling, Essex. v.36

REQUIRED, three Fertile Queens; state price delivered in good condition. Honey in cwt. lots, of an excellent flavour, sample highly commended at Grocers' Exhibition, £10 10s.; tins free. —THOMAS, Causeway, Burwell, Cambs. v.37

FIRST-GRADE SECTIONS, 200, chiefly clover and heather. What offers?—PHILLIPS, Kirkbride, Carlisle. v.38

WANTED, Honey Ripener.—J. BIRD, Glinton, Peterboro'. v.39

SECTIONS, seven dozen, for Sale, well filled, 2s. 10d. each. — BOOBIER, Bishopston, Swansea. v.40

WANTED, Stocks of healthy Bees; will exchange 1918 pullets, 1919 R.I.R. and Leghorn cockerels.—NEAVE, Fullview, Epsom Downs v.41

WILL all those bee-keepers possessing 25 stocks of bees and upwards kindly send particulars to SECRETARY, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.? v.42

ONLY 32,000 BEE STOCKS left in England and Wales! Dear me! And the biggest fruit crops on record! Dear me! dear me!!—S. H. SMITH, 30, Maid's Causeway, Cambridge. v.43

PURE English Clover Honey, granulated, £11 cwt.; sample 3d.—BUTTON, Castle Camps, Cambridge. rv.21

PURE Cambridge Honey (guaranteed) in 28-lb. tins, 58s. 6d., tin and case free; sample 4d.—YOUNG, 42, James Street, Cambridge. ru.65

WILL all those who are not in favour of legislation please communicate with Box 48, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. v.28

BUSINESS ADVERTISEMENTS.
1½d. per word.

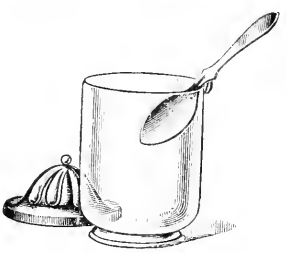
COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free. —F. RUMMING, 60, West Avenue, Oldfield Park, Bath. rv.6

Honey or Jam Spoon

Well plated on High Class Nickel, Will not fall into the jar, thus avoiding sticky fingers or spoilt table cloths. A neat and useful present. We have a few pairs in velvet lined cases for sale. 5/6 per pair. Post Free.



BRITISH BEE JOURNAL OFFICE,
23, BEDFORD STREET, LONDON, W.C.2

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.

Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON ROWE, 28a, Moy Road, Cardiff.

A B C AND X Y Z OF BEE CULTURE.

By A. I. and E. R. ROOT.

We have just purchased a dealer's surplus stock of the 1917 edition of this work. We have only a limited number, which we have been able to secure at a low price. While they last we are offering them to our readers at

13/- each, post free 13/9

All bee-keepers should possess a copy of this comprehensive work, which cannot be procured elsewhere under 16s. When this supply is exhausted the offer cannot be repeated.
BRITISH BEE JOURNAL OFFICE,
23, BEDFORD STREET,
STRAND, W.C.2.

Books for Bee-keepers

NOW IN STOCK.

		Postage
A.B.C. and X.Y.Z. of Bee Culture (ROOTS)	13/-	... 9d.
A Modern Bee Farm (S. SIMMINS)	7/6	... 6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	... 1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	... 1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	... 3d.
Dissectible Model of Queen Bee	4/6	... 3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	... 1d.
Fifty Years Among the Bees (DR. MILLER)	5/-	... 5d.
Honey and Health (A. HOPE) ...	-/6	... 1d.
Honey Vinegar (REV. G. BANOKS)	-/2	... 1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	... 6d.
Langstroth's The Hive and The Honey Bee	7/6	... 6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	... 2d.
Productive Bee-Keeping (PELLET)	10/6	... 6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.) ...	2/-	... 3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	... 2d.
Scientific Queen Rearing (G. M. DOOLITTLE)	3/6	... 4d.
Snelgrove's Method of Re-Queening	-/6	... 1d.
The "Townsend" Bee Book ...	2/6	... 2d.
WAX CRAFT (T. W. COWAN) ...	2/-	... 2½d.
Wilke's Book on Swarming ...	1/-	... 1½d.
MISCELLANEOUS.		
Maeterlinck's Life of the Bee	3/6	... 3d.

The Lore of the Honey Bee. By TICKNER EDWARDES. 2/-, postage 2d.

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

The 'Kent' Standard Model Hives & Appliances

TESTIMONIAL. *May* 12.

DEAR SIR,—I have had an opportunity of comparing the material and workmanship of your hives with others on the market, and in my opinion there is no sort of comparison between the two, yours being altogether superior in every particular.—Yours faithfully,——

S. J. BALDWIN, Stanley Road, Bromley, Kent.

FIRST IN THE LEAD. **FOREMOST STILL.**

The Masheath Bee Hives

(Regd.)

SIX MODELS:—

The "Single" Masheath (Porch)
The "Double" Masheath ,,
The "Double-Six" Masheath ,,
The "Single" Masheath (Porchless)
The "Double-Six" Masheath ,,
The "Baby" Masheath ,,

Every model a perfect W.B.C. Hive, made in the established "Masheath" design of splayed outer case, no plinths. Take **10 or 12** frame brood chambers for **British Standard 14 x 8½ frames, 16 x 10 frames,** or **Langstroth (Hoffman) American** frames; "Baby" only excepted, a 6 frame design which will accomodate any colony from **nucleus to 12 frames** on any of above frames, **and super if desired.** ***Some "Baby."*** The last word in equipment in this or any other country.

List and full description ready soon.
Construction going forward now.

Proprietor and Sole Maker of the

"MASHEATH" EQUIPMENT,

M. ATKINSON, The Bee Park, FAKENHAM

British Bee-Keepers' Association Conversazione.

The Conversazione held at the Central Hall last Thursday, October 23, was one of the most successful that has been held. The attendance was very good, over 200 being present, strong evidence of the growing popularity of bee-keeping. In the unavoidable absence of Mr. W. F. Reid from the earlier part of the meeting, the chair was taken by Mr. C. L. M. Eales, who, after expressing pleasure at seeing so many present, called on Mr. G. Thomas for the first paper, on "The Difficulties of Queen Rearing," which was as follows:—

Mr. Chairman, Ladies and Gentlemen:—

Ample time having been allotted for the discussion of this paper, I am venturing to place before you observations which do not coincide with the views held by some writers upon apicultural matters.

As most of you know, I do not rear queens for sale, nor do I produce nuclei for sale, confining myself to honey production, so that I am like most of you here, more interested in the amount of honey produced than in the amount of bees.

The queen bee is the foundation of our honey crop, for however good a honey season we may have, a poor queen will not produce a stock sufficiently strong to obtain the maximum amount of honey which is our aim.

You will allow that the strain and parentage of the queen are of the utmost importance.

My first difficulty, or question, is therefore:—From which queen shall I breed all my young queens? The bee-keeper of little experience would, I think, naturally reply, "Rear from the one that gave you the largest amount of honey." Unfortunately queens do not always transmit the desired qualities to their daughters.

Right here, therefore, I depart from the procedure of some queen rearers, in that I do not breed from one queen only throughout the season but from four or five queens.

I select the five breeding queens in the following manner:—

First, as a rule, no queen is chosen, of which I do not know the ancestry for at least two generations back; a queen register is kept you will note. Two of the five queens are over one year old, the other three, with the exception I will make, being those I consider the best daughters reared the previous year.

Every year I purchase a certain number of queens, utilise them for honey production, take the greatest amount of care that they produce the minimum of drones, and, should any one of these show marked superiority in honey production, she is utilised to rear queens from instead of one of the three young queens, but, in this case, only a few queens are reared from her, and the capabilities of her daughters are carefully noted the next season. I should explain that young queens are only reared from the selected purchased queen in the autumn, my fifth queen not being selected until that time.

My breeding queens are used for honey production at the same time that their larvæ are being used for queen rearing, so that check is being continuously kept upon their utility, this, again, being a variant from the practice of many queen rearers.

Should one of these queens not give the amount of honey one ought to expect, her daughters are not kept over the autumn, unless the breeding queen is one of the old queens, the success of whose progeny I can trace. This, you will note, sometimes leads to the condemnation of some stocks in the autumn.

I reason it out this way:—First I have their winter stores to sell, then I am not wasting my time in the early part of the next season in pushing on "dud" stocks, nor in rearing early queens to replace these poor ones, and most important of all, I have more time to devote to really profitable work. I early realised that it was the poor, or weak stocks, which occupied so much of my time in the spring, when the rare fine bee days are too valuable to lose, and when the maximum results must be sought from every minute occupied in direct bee manipulation.

The next difficulty, or question, I put to myself was:—What method of queen rearing shall I use? Shall I use the queenless, or the swarming, or the supercedure?

I put them in this order of sequence because I found from records of several years that I had the best average results from stocks headed by queens that had been reared under the supercedure impulse, and the poorest average from queens reared under the queenless impulse.

I do not agree with the opinion of some of our recent writers, who advocate the desirability of keeping queens that had been reared under the swarming impulse, or of rearing queens under that impulse.

If you think for a moment, you will realise that to keep swarm cells means

propagating a strain of bee with a tendency to swarm, which in my own case of having a number of stocks to supervise would be fatal to efficiency.

Further, I am of the opinion that, when queens are reared under the swarming impulse, the bees sometimes cap the larvæ at ages of the larvæ which vary a little, and I know for a fact that they sometimes build queen cells around larvæ which are older than those I choose for grafting purposes.

Would not these two latter points be sufficient to account for the variation in results the following season from stocks headed by sisters from the same swarm?

Having decided upon "supercedure" cells, my next difficulty was whether to graft or not. I still have an open mind upon that point. I graft because I have not so far found any deterioration in the young queens by doing so, and because of the advantage in the subsequent handling of the cells. This climate is so very variable that one might be compelled to attend to cells in unsuitable weather, or lose the batch, also the cutting out of the cells from frames of comb, and their transference to cell protectors, is a messy, time-consuming operation, which grafting obviates. Regarding cell protectors, I might mention here that they are apt to be turned out lately with the outlet at the top too small for the queen, and I have found it necessary to cut a little of the tip off. *Verb. sap.*

I think grafting has been condemned by some bee-keepers because they had not properly mastered the essential points, and I must confess I did not make it successful at first.

Having decided to graft, what style of cup shall we employ?

I use the flanged cell cup, because there is no trouble with this type through its slipping too far into the cell protector, and I prefer these for suspension in the hive.

Having produced our cell, we now come to the introduction of the virgin queens, or cells, to the nuclei, and with your permission I would like to digress a little from my subject.

You have been, I expect, as puzzled as I have to account for the varying opinions of queen breeders with regard to mating box manipulation, one party being all for virgin introduction, another taking the same view with the addition of precaging, and another plumping for cell introduction, and hatching out of the virgin in the nucleus or mating-box.

In my experimental work of 1910 I had five races of bees, and their crosses. By the way, with one of the five, Carniolan, I had little experience, because these queens first introduced me to foul brood, so that I was not able to give this race the tests that I gave the others.

I formed the opinion that the question of cell, or virgin introduction was decided partly by the race of bee, and that there is sufficient variation in the same race of bee to account for the different opinions. It is therefore not possible, offhand, to state which system of mating-box manipulation should be followed, each must find out for him, or herself, the possibilities of the strain they possess, but, when possible, I plump for virgin introduction, in that one can then see the virgin beforehand, and if apparently not up to one's standard, she is soon thrown away. If introduction of virgins to nuclei containing open brood is desired, then the older bees in the nuclei should be removed.

Our young queen being started upon her reign, I now leave her for our next interesting paper.

You will remember that I stated that I made use of two queens over one year old for breeding purposes.

I maintain that the longevity of the queen is transmitted to the worker bee, and that a strain which is capable of producing a long-lived queen, will produce a worker similar in that respect, a very vital point in wintering qualities, also in a honey flow of long duration. As regards this latter point, however, it is generally the life of the wing which decides the life of the bee.

I have an object in purchasing queens which may not have been apparent to you. These queens provide me with a valuable check upon the results of my queen rearing, and would, at any time give me warning that there was something wrong with my methods, were I to find that stocks of my own strain were producing a lower average honey crop than purchased ones.

In checking averages for this purpose, I would suggest taking the average for the five or ten best stocks of the particular strain, and not that of the whole apiary, because it might show a still greater difference where such existed.

Results are what we aim at, and if this paper will induce others to keep records, and let us have the benefit of them, greater improvements might yet be discovered in queen rearing. An investigation into the different methods of grafting alone would be of interest, and one which might well repay the cost. This would well come within the purview of the parent Association, were it better supported with funds from the bee-keeping fraternity.

Before concluding there is one fact about the British bee which I have rarely heard mentioned. There is a strain, or

perhaps I had better say there was a strain of British bee ranging over the Cotswold Hills to Buckinghamshire, which when manipulated ran about the frames and dropped off in lumps, and were also prone to "ball" their queens in spring examinations. Is this the variety the U.S.A. bee-keepers term the black bee? If so, it would account for their hearty condemnation over there. Again, there is a variety in some districts much darker in colour, and generally excellent workers.

In conclusion, I thank you for the attention you have given to a paper which must be very dry to some of you.

Mr. Hayes: Mr. Thomas said that he preferred queens raised by the "supersedure" method. I would like to know how he gets the bees into that frame of mind.

Mr. Prior preferred giving nuclei a queen cell to introducing a virgin queen. Mr. Thomas said it was desirable to first get rid of the old bees. Would he tell how he did this?

Mr. Eales asked if Mr. Thomas had any reason for thinking the progeny of an older mother were more likely to be long-lived, or was it only a matter of opinion?

A gentleman whose name we did not catch asked what were the qualities of a queen. Should we breed queens to colour?

Mr. Hill thought not much had been said about the difficulties of rearing queens. One of the difficulties he had met with was to get Dutch bees to accept an Italian queen. The Dutch were good bees for increase, as they were good breeders and good swarmers, but it was very difficult to get them to accept Italian queens. He had tried them with a queen cell containing a larva reared from an egg laid by an Italian queen, but as soon as it emerged from the cell it was balled. Bees would not accept a virgin so well as a fertile queen. Was that one of the difficulties?

Mr. Wiltshire thought much of the success or failure of introduction depended on the attitude of the queen; nine out of ten virgins would probably be killed. Mr. Thomas said some introduced queens, others queen cells. One rule was to make a nucleus and introduce the queen at once, but it was more difficult to get one accepted any time after; it was better done while the bees were in confusion. Another question was as to whether it was better to use natural cells or cell cups. He preferred cell cups, for there was plenty of room in them for the queen to develop, whereas a natural cell might be built with a worker cell as the base, and there would be too little room for a plentiful supply of food in the cell for the young queen. He therefore preferred a cell cup, and double grafting to ensure plenty of food. Small mating boxes holding three frames the size of a section were said to have been very successful in America. He had tried them, and had not succeeded in getting one queen mated in them, either from a queen cell or introducing a virgin, but had been successful with two or three frame nuclei and with baby nuclei. He thought the cause was that in our climate the necessary heat could not be kept up in the small section frames.

Mr. Prior questioned if there was any difficulty in introducing queen on to virgin brood.

Mr. C. C. Page asked if there was any objection to raising queens in a glass hive. He had done it most successfully.

Mr. Claridge said that a virgin would not be accepted if the combs contained eggs; that was a most important point.

Mr. Hill said that bees superseded the queen more often than we think, not only when she is aged, but when her powers are failing. Would a queen that was being superseded in one hive be treated the same if put into another hive? He had taken from the hive a queen that was being superseded, and introduced her to another hive, but the bees there also made preparations for doing the same as soon as she commenced to lay. Would it be possible or advisable to get supersedure cells by moving over a queen from one hive to another, supposing she would be superseded in any hive to which she was introduced.

Mr. Thomas said there were several methods of getting supersedure cells. A queen purchased from other people might be injured in post, but still be able to lay eggs. There was always a certain percentage of supersedure going on, though it might vary in different years. This year it had been large, last year small. If some combs of brood were raised over the brood nest, the bees would most likely start queen cells, though they were not queenless, and this would be equal to supersedure.

He found no difficulty in introducing a virgin if it was done at the time the nucleus was made up. When a fertile queen had been taken away from a nucleus he removed it to a new site before introducing another virgin, and so got rid of the old bees, but he never moved one unless the queen had been laying and a brood nest had been formed. To find if the progeny of a queen were long-lived, a record must be kept. For instance, if a colony of bees covered, say, 20 combs when packed down for winter, and in the spring only covered eight, that queen would not be bred from.

With regard to Dutch bees not accepting Italian queens, he would not have Dutch bees at any price; they killed off queen after queen, either virgin or fertile. One way to successfully introduce a queen was to put her in a cage with a large amount of candy and eight or ten workers. Place it on top of the frames under the quilt for a week; then allow the bees access to the candy and let them release her. Don't examine again for 14 days. He laid a large cement sheet in front of the hive, so that he could see if the queen was thrown out. Small mating boxes had been hopeless this season, though they were successful in 1911. With regard to Mr. Hill's theory of obtaining supersedure cells, he did not know how it would answer. It appeared most intricate, and would need testing and records being kept.

Mr. Eales said he had heard of a most curious case. An Italian queen was introduced to some Dutch bees, was accepted, and commenced to lay; but as soon as the young Italian bees commenced to emerge from the cells the queen was balled. His experience with Dutch bees was, you don't know where you are with them. He proposed a vote of thanks to Mr. Thomas, which was most heartily accorded.

The meeting then adjourned an hour for a most enjoyable tea. An opportunity was also afforded for friends to renew acquaintance with each other and to make new friends. Directly after 6 o'clock Mr. Reid took the chair. He read a message from Mr. T. W. Cowan saying he had intended being present, but owing to the impossibility of obtaining accommodation he could not be present. Several others also sent word they were sorry not to be able to get there. He then called on Mr. Bryden to introduce the next subject for discussion, "The wintering of small stocks and nuclei indoors."

A Dorset Yarn.

After noticing the absence of honey in bulk at the Dairy Show, one cannot but realise that this has been one of the bad years for the honey harvest. The largest exhibition of honey that I have ever seen has been at Islington, in the years that are past. That some districts only had 7 lbs. per hive, when others had 70 lbs., shows that some parts are better than others; one tells of abundance, another of scarcity, the thinking man must make a deduction as to the cause. We have had plenty of sunshine, plenty of flowers, though white clover flowers were poor in quality; I am thinking that the dry time in June was the cause of failure amongst some of my neighbours. The whole of that dry time I kept a large tray of syrup on the top of an empty hive; it was filled with moss, so that the bees should not get their little feet wet. When I was in hospital my daughter followed up the syrup, 1 lb. of sugar to a quart of water. It was used up each day; when the rains came the tray filled up, and still the bees went to it, but not in such large numbers. At that time each frame of comb was raising thousands of young bees, and food was wanted in abundance. They use a lot of water in preparing food for their young; the thin syrup was what was readily used for the purpose; it was close to them and no long waits for each of them. If some went into the sections to store I cannot tell, but all early ones had a very fine flavour. They know their business too well to store away such thin stuff up above; it was, without a doubt, kept close to the young brood.

That some localities are better than are others goes without cavil; I am sure that border lands of heather are fine for them, when the rich farm lands are near, with plenty of woodland in close proximity. Many writers inquire of certain localities. The one that I know best from the forest to the far end of Dorset seems to me to be an ideal one for bees. One querist asks of Weymouth as a possible paradise for bees. There are some fine apiaries there, but they are near the forests of flowering trees. Wareham, called "Anglebury" by the Dorset novelist, seems to me a fine place where forests, farmlands and heather are all intermixed. It is the same all up the line to Brockenhurst; here all bee-keepers do well in every season, but of course in some seasons a bumper harvest comes. The border line of heather goes through Ringwood, Westmoors and Verwood, all with easy soil for working; all give the best results for fruit and flowers if done well. Extra stiff clay soils, though good for fruit and corn, want a lot of working in suitable weather. Better have soil a bit poor in quality which can be worked at all seasons, than soil which is only possible at certain times, because honey alone is an uncertain harvest; but in conjunction with tilling the soil, it is a fine side line, as it gives so much pleasure to the farmer when the hard time of toil is over, beside the extra luxury of a good article of food.

Our bees are out for some part of the day, even though the mornings have frost on the soil. When the sun is up they are on the lines of rasps. They have missed the ivy entirely, though the hedgerows have plenty of these peculiar blossoms. The rasps are the greater attraction, they have passed over the perennial strawberries; the flowers have a black eye

through frost, all the sexual parts are spoilt for them; the white florets are there as before, but the parts for pollen and nectar are no more, while the pendulous flowers of rasps. have both the sexual parts of the blossoms intact, and there the bees delight to forage, all adding to the late store of pollen and honey. There are still many young bees to be seen through the peep-hole of the hive over the bars, which is another augury for good wintering.—J. J. KETTLE.

The Dairy Show.

Perhaps the best description of these exhibits can be summarised in the proverb "Little and good." The class of light-coloured honey in jars had three entries only—a total which might have been increased had not a very good exhibit been entered wrongly in the medium-coloured class. The quality in the light class was high, and on the special recommendation of the judge a second prize was awarded, so few were the points dividing the two prize-winners. The class of medium-coloured honey had eight entries, and the prize-winners were of much merit. The heather and the heather blend classes had two entries. There was much excellence in both exhibits, with some lack of density in the first prize exhibit. The granulated honey had one entry, which unfortunately showed signs of incipient fermentation, and no award therefore could be made. There was no entry in the class for sections, which are always such an attraction to visitors. The wax classes were poorly represented in point of quantity, but the prize-winners were excellent, both as regards quality and get-up. No honey trophy or display was staged, and only one entry of an exhibit not coming under any of the other classes. This in essence was a combination of brood chamber and queen excluder, and, though certainly interesting and instructive, could hardly be acceptable to a practical or scientific bee-keeper. Much thought and labour, however, had evidently been devoted to the turning out of this exhibit, which was awarded a third prize.

In view of the large quantity of colonial honey now offered for sale in this country, it is certainly a matter of regret that no entries were forthcoming in Class 103 (colonial honey).

The stand of honey and wax, though considerably shrunken in size as compared with pre-war shows, was visited by a goodly proportion of the large crowds which thronged the Gilbey Hall throughout the show. The duty of judging was undertaken by Mr. C. L. M. Eales. The list of awards is as follows :—

Twelve jars of light-coloured extracted honey.—1st, A. Jackson, 103, Chalk Hall, Elvedon, Norfolk; 2nd, Mrs. Herring, Brauncewell Lodge, Wellington, Lincoln; v.h.c., Mr. W. Bourne, High Street, Esher.

Twelve jars of medium-coloured extracted honey (other than heather).—1st, Miss Essell, Birchyfield, Bromyard, Wores; 2nd, Mr. E. C. R. White, Newton Tovey, Salisbury; v.h.c., Mr. W. Trinder, Edwinstowe, Newark; h.c., Mr. H. E. C. Carter, 73, St. John's Road, Blackheath.

Twelve jars dark-coloured extracted honey (including any variety of heather mixture).—1st, Miss A. Debenham, Blaby Dairy Farms, Briantspuddle, Dorchester; v.h.c., Miss W. Unwin, Crosswater, Chart, Farnham.

Bees' wax, not less than 2 lbs. in two cakes.—1st, Mrs. Herring; v.h.c., Mrs. E. M. Heath, Mark Hill, Bewdley, Wores; h.c., Mr. W. Trinder.

Interesting and instructive exhibit.—3rd, Messrs. Hopwood & Fishwick, Ribbleside Apiary, Chatburn, Lancs.

"Isle of Wight" Disease.

Out of the tumult of conflicting opinions as to the cause and cure of this bee-keeper's nightmare there emerges one reassuring ray of hope. The eternal triangle—Cause, Effect, Result—is being rapidly contracted in respect to our knowledge of this disease. In the advertised drug cures we have nothing to warrant the least hope of finding a cure, all reported recoveries, when investigated, being found to have other factors included in the "cure" treatment which in themselves are held up in certain instances as "cures." The essential feature of the "Bacterol" treatment is the removal of all stores when spraying or feeding the drug; but numerous cures have been effected by driving a diseased stock into an empty skep, with no application of "Bacterol." Taking the "Flavine" cure, we find that "doubling," or putting a weak or diseased stock on a healthy one, is the basis of the reported cures, irrespective of the spraying of "Flavine" given. "Izal" at various times has given encouraging results; but, looking through the back numbers of the B.B.J to the middle of 1911, I have failed to find any writer giving particulars of the strength used. I myself have found that spraying with a solution of nine drops to three-quarters of a pint of tepid water sent the bees of a badly diseased stock scurrying in hundreds over the alighting board, and

weakening the stock beyond all hopes of recovery through the desertion of the hive. The smell of this abnormally weak solution created an immediate panic, and when coming in contact with the body of the bees resulted in killing the stock, not curing it. With reports appearing week after week in the B.B.J. giving the writer's account of swarms taking up their abode on diseased frames of comb, in hives which are graveyards, bee-keepers all over the country are asking, "What does it mean?" If the honey is tainted and the hotbed of a sporing organism, what is the explanation of the hundreds of successful and profitable hives in rural Britain which came into being from a stray swarm building up on the remains of a dead hope? All the scientists of bee culture and the vendors of cures are dumb when faced with these cases. And so the issue is narrowing. Great scientists have fed the pulped remains of diseased bees to healthy stocks. They remained healthy. Disinfectants and antiseptics have failed to cure. Where, then, are we drifting?

I will close this already too long letter with an account of the results of my experimenting for a real cure. Reviewing all that has been written and is known of this plague, I attribute its cause to a mucous growth in the air passages of the bees, contagious only by actual contact with a *living* diseased bee, or inhaling the air in a hive in which there are *living* bees suffering from the disease. When first affected we see the frantic efforts of the attacked bees, twitching and scraping their bodies, darting off in the air, trying to clear the obstruction. But in a few days these same bees are crawlers, through the rapid closing of the air passages, and the mucous growth is still left in its inception form, floating in the air of the hive, provided the exhaled air is warmed sufficiently by the remaining bees and contains the elements necessary for its growth, which is analogous to the growth of diphtheria in children.

If this article is of interest to other bee-keepers, I should, with the Editors' permission, like to give an account of a treatment which I have found to cure always, and permanently. After exhaustive study and repeated experiments, I have found that bees, under certain conditions, contract the disease readily; but when an infected stock, in its early stages, is given a treatment, it always, and immediately recovers, with only the loss of crawlers, who would have been over the flight board in an hour or two. I have nothing to sell, nothing to give away. The agent, but not the basis, of the cure is bought for 2d. at any chemist's shop, and it is not a drug. Therefore, if my bee-keeper readers desire it, my next article shall be, "Isle of Wight Disease: One of its Causes. A Cure."—RICH. L. EDWARDS.

Carmarthenshire Bee-Keepers' Association.

LLANELLY BRANCH.

I send you herewith copy of the Winter Syllabus, 1919-20, of our local Branch of bee-keepers.

I suggest you bring it before the notice of other Associations for the spread of useful and helpful knowledge to all interested members of local Associations. The subjects have been chosen for their particular help to novices and beginners like myself, and the subjects, after introduction, will be open for frank discussion and questions, to help all to be thoroughly informed thereon. Our local secretary is Mr. J. Lawson Pickard, 45, Albert Street, Llanelly, and the lectures are held in the ante-room of the Athenæum, on the third Saturday in each month, at 6 p.m.—J. WINTERBOTTOM.

SYLLABUS.

Saturday, October 25, at 6 p.m., "Foul Brood amongst Bees," lecturer, Mr. R. Lloyd Roberts. Saturday, November 22, at 6 p.m., "Races and varieties of Domesticated Bees," lecturer, Mr. J. Winterbottom. Saturday, December 20, at 6 p.m., "Extracting, Ripening and Grading Honey," lecturer, Mr. L. Hopkins. Saturday, January 17, at 6 p.m., selected subject, lecturer, A. Preston, Esq., Hon. Sec. Carmarthenshire Bee-Keepers' Association. Saturday, February 21, at 6 p.m., "Stimulative Feeding in Spring," lecturer, Mr. J. Lawson Pickard. Saturday, March 20, at 6 p.m., "Bee-Hive Construction," lecturer, Mr. D. W. Jones.

Questions and discussions will be welcomed after each lecture.

Non-members of the Society are cordially invited to attend the lectures.

Glasgow and District Bee-Keepers' Association.

The above Association opened its Winter Session with a social evening on the 21st inst., 79 members and friends being present.

A varied musical programme was gone through, and after refreshments were served the President, Mr. R. Whyte, and the Vice-President, Mr. Alec Steven, addressed the gathering on the subject of bee-keeping.

A hearty vote of thanks was accorded the President for presiding.

A series of lectures have been arranged

for the winter, to be given by the following gentlemen :—

Rev. John Beveridge, B.D.;
Mr. Alec Steven, L.R.A.M.;
Mr. W. G. Avery,
Mr. John Anderson, M.A., B.Sc.

The secretary, Mr. P. Bebbington, 65, Robertson Street, Glasgow, will be pleased to have the names of ladies and gentlemen desirous of joining the Association.

Questions, etc., for Bee-keepers for Self-Examination.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

361. How does the use of a super-clearer assist in preventing robbing?

362. What is the approximate weight of honey which (1) a standard frame and (2) a shallow frame used in a W.B.C. hive will hold?

363. What substitutes for pollen may be given to bees, and when should they be supplied?

364. Discuss the need for the use of an excluder when a colony is being worked for section honey.

365. What part of the day is the most suitable for the removal of a swarm to another apiary?

366. What governs or influences the choice of shape and size of frames?

367. How can a division board be used as a help in the checking of swarming?

368. What substances are found in pollen which are absent from honey?

369. Explain the granulation of honey, stating what happens, whether chemically or physically.

370. Compare single-walled hives with double-walled, and state the merits and demerits of each.

371. What are the characteristics of nectar, honey, grape sugar, invert sugar, cane sugar, glucose, and honey dew?

372. Make notes for a 15-minute lecture on "Observatory Hives."

J. L. B.

Weather Report.

WESTBOURNE, September, 1919.

Rainfall, 1·24 in.
Heaviest fall, ·32 in. on 5th.
Rain fell on 10 days.
Below average, ·99in.
Maximum temperature, 77 on 10th.
Minimum temperature, 30 on 29th.
Minimum on grass, 26 on 29th.
Frosty nights, 2.
Mean maximum, 65·4.
Mean minimum, 49·2.
Mean temperature, 57·3.
Above average, 1·3
Maximum barometer, 30·402 on 16th and 17th.
Minimum barometer. 9·422 on 23rd.

L. B. BIRKETT.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Queen Raising in October.

[10024] On the 11th inst., in the morning, queen of a hive was being balled on extended alighting board.

On examination of the stock in afternoon by my friend Mr. Snelgrove (expert) two queen cells in grub stage were found.

This hive had simply been boiling over with bees all the summer, and swarming was, of course, looked for, but did not come off.

Presume the above fact is unusual.—BENJN. BOOTHROYD.

Botanical Name of "Tee" Tree.

[10025] In answer to Mr. Hemming's inquiry in his interesting "Jottings from Huntingdonshire," I do not know if he is an enthusiastic golfer and uses a rubber, or sand tee. The tree he refers to must be one of the varieties of *Lycium*, commonly known as tea-tree, it would be more correctly called a shrub. It is a free grower, of rambling, half-climbing character, very frequently seen in Somersetshire, at the seaside growing over the porch of the cottage, or covering the arbour: it grows well in a light, sandy soil.—H. F. JOLLY.

[10026] *Re* Mr. E. F. Hemming's "Jottings from Huntingdonshire" (pages 466-467, B.B.J.), may I suggest that the tee-tree—or, rather, *Tea-tree*—which he describes is the *Lycium Chinense* or *Lycium barbarum* of the botanists, and is often grown in cottage gardens? In Johns' "Flowers of the Field," 33rd edition, p. 351 ("Nightshade Family"), it is described as an Asiatic shrub naturalised in many places, especially near the sea, straggling, with long, pendulous, and sometimes spinous, branches; fleshy, glabrous, lanceolate leaves; purple, funnel-shaped flowers, with a short corolla-tube, green throat, and black honey-guides; and red, berry-like fruit. Suggested as a substitute for tea. Flowers June to August. In "British Flora," by Bentham and

Hooker, p. 317, it is said to be established in hedges in some of the eastern counties." Leo. H. Grindon, in "British and Garden Botany," p. 335, states that it is "a rambling shrub, with long, slender shoots, growing rapidly, and capable of becoming 30-40 ft. high. Fruit "not unlike that of the Bitter-sweet Nightshade." — W. WINTERTON, Stoke Mandeville.

"Yoicks."

[10027] Mr. Legislator! when you go down to Westminster to deliberate on the "Diseases of Bees" Bill, whatever you leave out, don't omit to put in measures to deal with "diseases of the law on bees," a virulent type of which has shown up at Bath County Court.

How simple it all is! Is there any reason to-day in declaring bees "wild animals" under all conditions, the moment they leave the hive to which a man cannot glue his eye, if he is to get on with his work?

And is there a more "domesticated animal" than the honey bee, without necessarily obliterating the fact of bees in a state of absolute freedom, i.e., wild bees, not under cultivation?

A swarm from a man's hive are "cultivated bees." Who can dispute that? Cultivated bees can never earn the definition of "wild bees" until they have "established" themselves. It does not matter if a swarm flies 20 miles; such bees are "cultivated bees," in fact, and the property of their cultivator, in justice. The law says not. A person loses portable property of more or less value, in a "*public place*" *to which anyone has access*. The law dubs he who appropriates it a thief, unless he report and deposit his "find." It can be rightfully claimed by its owner and restored, subject to a reasonable time limit. If not so claimed the finder's title is recognised.

Is it not also a fact (I am open to correction), if poultry break bounds the one who appropriates them can be made to restore?

The question of "keeping in sight," critically examined, is foreign to the subject. I am a bee-keeper; you are, with 100, 150, 200 stocks of bees. Appropriately a developing fruit orchard is the location. Trees will grow, obstructing, in vigorous growth, all but "spot" view. I must work, aye, day and night. A hive on being opened may give me an hour's continuous and close care and attention, or, it may call for but two minutes; who knows? A colony in yonder cluster of vigorous maturing fruit trees, in full seasonal growth, is known to be swarm primed, and for certain reasons its swarming is desired. No bees of like characteristics are cultivated, nor in a wild state, within four miles. A single bee can provide identification of my cultivated "domestic animals."

The swarm issues, unknown to me, deep at work in a complicated manipulation elsewhere in the apiary, out of sight, out of hearing of that swarm and its hive, my senses glued to my job. It clusters on a tall "fruiter" not 10 ft. from the hive, the queen a valuable breeder disinclined to fly far, the pride of its owner. Somebody else out on the road on a laze, 50 yards off, sees the swarm in the air, awaits clustering, comes over the hedge, appropriates it and establishes, according to Justinian, title to "a swarm of wild bees"!

Lord! how simple it all is. And how simple I have been in cultivating acknowledged "domestic animals" for years only to prove they are not mine after all!

I look to the day when no person will be permitted to "take" a swarm of bees from any place, public or private, without reporting to the police against a possible claimant who should have an opportunity of identification by even circumstantial evidence. It is a detrimental factor to small bee-keeping, that one may lose all profit for the year, by a swarm which others may get, and its rightful owner, occupied with legitimate interests, have no redress because of absence of "sight," a ludicrous condition, Justinian or not.

Not only that; I would see the day no "taker" ever "took" if he could not also prove himself a competent bee-keeper, fit person to have the care of bees, wild or not. Bees would be better "wild" than possessed by a "wild bee-keeper." Justinian carefully appoints every person a bee-keeper, "at sight."

In these days of free education by County Councils, in addition to easily accessible manuals and general literature on bees, a "bee owner" has no more right to ignorance than any child to lack of elementary education. I will not press that issue further here, that there is disease in the law on bees, and has been ever since Justinian's day, is now patent. It is about time it received attention.

The Bath bee-keeper plaintiff's solicitor can call upon me for a 10s. subscription to aid an appeal for "justice," if it is carried so far, and in the interests of the industry, there is not an association of bee-keepers anywhere in the land but must see that if association means anything at all, here is their obvious duty to prove their interest and right of existence. Again, Yoicks!!—M. ATKINSON.

"Tanging" Bees.

[10028] I should be very glad if any of your readers can tell me if in their district the custom of beating pots and pans to make swarms settle is in vogue, or has been within living memory.

Also if they can inform me of any similar custom in other countries.—N. F. ROBARTS, 23, Olives Grove, South Norwood, S.E.25.

Legislation.

[10029] As one who hopes before long to take up bee-keeping on a large scale, this question interests me greatly. It is to be hoped that the Government will consider the interest of bee-keepers generally, or rather of the bee-keeping industry, and not take too much notice of small and noisy sections of it.

The usual excuse for not proceeding with a Bee Diseases Bill has been that nothing can be done until there is unanimity among bee-keepers in regard to it. How can there be unanimity about any compulsory measure? There never has been, and never will be. If there were, the need for compulsion would cease. Some will always object to anyone interfering with their bees, but if a majority can be found in favour of legislation, it is to be hoped the Government will proceed with it in spite of opposition, for the benefit of the community.

Much more honey could be produced in this country if only people were encouraged to take up bee-keeping on business lines, but one hesitates to do so as long as there is this constant struggle against disease. Some well-known bee-keepers, notably Mr. W. Woodley, claimed to be able to keep their apiaries free from foul brood without the assistance of legislation. Can the same be said of "Isle of Wight" disease? I do not think so.

I notice an anonymous advertisement in the current number of the B.B.J. appealing to the opponents of legislation. I invite the advertiser and his supporters to come out into the open. They are, of course, as much entitled to their views as I to mine, but they ought to let us know who they are and on what ground their opposition rests. There is, I am aware, a good deal of opposition about; some of it genuine, much of it factious. I have no quarrel with the former, but the latter is most injurious to the interests of the craft, and consists of people, who, while professing to favour legislation, oppose every attempt in this direction which does not originate with themselves.

I feel that we have the right to ask those who oppose us clearly to state their objections, and if these are not concerned with legislation generally, but only with some particular bill or scheme, then in common fairness they ought to be prepared to draw up without delay an alternative scheme which would be acceptable to them, so that, if possible, an agreement might be arrived at between us.

The chief trouble with "Isle of Wight" disease is re-infection. I maintain that the same principles should guide us in combating it as are adopted in human disease. In the case of infectious human complaints, we not only advise preventive and curative measures, such as cleanliness, sanitation, good food, drugs, etc., but we *isolate* the patient. Our curative and preventive measures are not without value, but we should never have a healthy community so long as we allowed numbers of people to go about carrying and spreading disease indiscriminately. A good bee-keeper would cheerfully put up with an occasional struggle against disease, but when it is about him and around him all the time, and his bees constantly becoming re-infected, he may well get discouraged.—L. ILLINGWORTH.

Frames.

[10030] The larger frame is not "coming"—it has come. Mr. Greig (10021) is about ten years behind the times. I am not out to standardise the 16 by 10 in the sense of making it supersede the 14 by 8½ as the British standard. I hope I am not "dogmatic" on the subject. I have private information that shows me that several hundreds of colonies will be set up on 16 by 10 within two years, and also that there are already a large number on colonies of this size.

So far I have heard of the following sizes in use; each is in the hands of one man only:—16 by 10½ by 19, 16 by 12 by 17½, 16 by 10½ by 17½, 14 by 14 by 17, 14 by 11 by 17, 15½ by 10½ by 17. It is claimed for the 15½ by 10½ that it can be used in present hives without scrapping. I am quite at a loss to see *how*, but that is what the man says. It can, of course, be used in W.B.C. hives in a special brood chamber, but so can the 16 by 10.

Mr. Greig takes the rather extraordinary course of quoting from a private letter for publication. What I intended to indicate to him was that anyone might manage to work a few bees as he suggests for a "profitable hobby," but that his plan is quite out of the question for honey production on a commercial basis. I don't think anyone will ever set up many hives on the "Conqueror" principle, unless they do it all at once, before they find out. The "Conqueror" hive is quite useless for commercial honey production, I am sure of that. Have used both double and

single for some time, but gave them up. The expense alone puts the "Conqueror" out of the question.—ROBT. B. MANLEY.

P.S.—The man above mentioned as using 14 by 14 by 17 is now going entirely for 16 by 10. The man using 16 by 10½ by 19 is ready to change should 16 by 10 become used generally.

Price of Honey.

[10031] In your issue of the 7th inst. I see a resolution was passed by the British Bee-keeper's Association advising bee-keepers not to sell their extracted honey for less than 2s. 6d. a lb.

In this town sections are selling at 3s. 4d. to 3s. 6d. in the shops, and extracted at 2s., market price for latter 1s. 4d.

It would be very useful to bee-keepers if you could tell them where 2s. 6d. a lb. for extracted honey can be obtained, the above price is rotten in comparison.—F. W. MOORE, Bournemouth.

[Sorry we cannot give any particular address at the moment where honey is being retailed at 2s. 6d. per lb.—EDS.]

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

A. PARKER (Finchley).—Thanks for your letter. As you will see, we have had others to the same effect. If the combs are clean, the honey is quite fit for human consumption if the bees died from "I.O.W." disease.

Suspected Disease.

X. Y. Z. (Birmingham).—Italian bees are not immune from "I.O.W." disease. They resist it better than some other varieties, so there is really nothing to be surprised at that your stock re-queened with a young Italian queen now shows symptoms of the disease. Re-queening with a young, vigorous queen is still one of the best safeguards against "I.O.W." disease, but it does not follow that it is effective in every case.

SAPPER, S.P.P. (Lincs.), W. V. WAITE (Gainsboro'), C. PLUCK (Margam).—The trouble is "I.O.W." disease.

"NOVICE" (Wimborne).—The bees were natives, and suffering from "I.O.W." disease.

C. G. HOAD (Sussex).—The bees were hybrids, and suffering from "I.O.W." disease.

R. BURDON (S.W.1).—It is not possible to tell if bees that died last winter were suffering from disease; they have been dead far too long. It would very likely be "I.O.W." disease. An average colony will stand a lot of cold weather if bees and interior of the hive are kept dry.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

November 5 and 6, Honey Show at Cambridge in connection with the Eastern Counties Fruit Show. Open Classes.—Schedules, etc., from E. C. R. Holloway, The Rosery, Burwell, near Cambridge.

November 25 and 26, Barnstaple Great Open Show.—Poultry, Pigeons, Cage Birds, and Horticultural Produce, including Honey (three classes).—Schedules post free from the Hon. Secretary, Wm. E. Hart, Devon Seed Stores, Barnstaple.

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens** *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

PURE ENGLISH HONEY, in 28-lb. tins, £10 per cwt.; tins and crate to be returned; sample 6d.—WELLS, 4, Bowers Lane, Isleham, Ely, Cambs. v.44

PURE Light Shropshire Honey, in 28-lb. tins, 58s. 6d., tin free.—T. TUDOR, JUNR., 20, Spring Cottage, Little Drayton, Salop. v.45

GEARED EXTRACTOR wanted; would exchange, or sell, Tamlin Bone Cutter.—KEATING, Foster Road, Alverstoke. v.46

WHITE Wyandotte Cockerel, April, grandson Cam's Lady Supreme and P.19, 17s. 6d.; White Wyandotte Bantam Cockerel, 7s.; or exchange honey ripener.—ASTBURY, "West Farleigh," Wylde Green, near Birmingham. v.47

HONEY for Sale, good quality, granulated, £10 per cwt., carriage paid to station; cases and tins returnable.—SPARKES, Chute Standin, Andover. v.48

WANTED, about 25 lbs. granulated solid Honey, English. State price packed.—H. NORCROSS, 5, Durnford Street, Middleton, Lancs. v.49

WANTED, "Bee World," Nos. 1 and 2.—State price on p.c. to E. T. W., The Apiary, Braunton, N. Devon. v.51

ADVERTISER wishes to invest a few hundred pounds in sound bee-keeping concern; Sussex district preferred; whole or part time given; own motor car for use; references exchanged.—Write, BOX 50, BEE JOURNAL Office, 23, Bedford Street, W.C.2. v.50

FOR SALE, finest quality Manx Honey, £10 per cwt., carriage forward.—WATTERSON, Ashwood, Brunswick Road, Douglas. v.52

FOUR spare 1919 Queens for Sale, 6s. each.—DAVID HUNTER, Beechwood, Lifton, Devonshire. v.53

WANTED, offer for 13 cwt. pure Norfolk Honey, in 11 28-lb., 32 14-lb., 74 7-lb. new tins, 182 1-lb. Mono pots, on rail, thoroughly strained, bright, and ripe.—RICHARD LING, Briston, Melton Constable. v.54

S.O.S S.O.S. S.O.S. Guesses ranged from 6s. 8d.—47s. 6d. Correct answers—35s.—were numerous enough. They come by wire, letter and postcard; also illustrations, diagrams and explanations. But we asked for the most *concise* answer. Sixteen are tied for first place. We retire for one week to scratch our head for a solution.—SMITH, Cambridge. v.55

WANTED, Honey Ripener.—J. BIRD, Glinton, Peterboro'. v.39

WANTED, Stocks of healthy Bees; will exchange 1918 pullets, 1919 R.I.R. and Leghorn cockerels.—NEAVE, Fullview, Epsom Downs v.41

WILL all those bee-keepers possessing 25 stocks of bees and upwards kindly send particulars to SECRETARY, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.? v.42

PURE English Clover Honey, granulated, £11 cwt.; sample 3d.—BUTTON, Castle Camps, Cambridge. rv.21

PURE Cambridge Honey (guaranteed) in 28-lb. tins, 58s. 6d., tin and case free; sample 4d.—YOUNG, 42, James Street, Cambridge. ru.65

WILL all those who are not in favour of legislation please communicate with Box 48, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. v.28

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free.—F RUMMING, 60, West Avenue, Oldfield Park, Bath. rv.6

THE

British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary,

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

Books for Bee-keepers

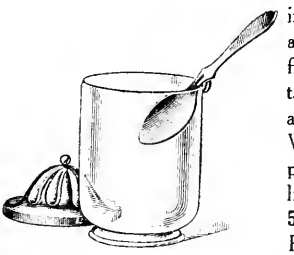
NOW IN STOCK.

		Postage
A Modern Bee Farm (S. SIMMINS)	7/6	6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	3d.
Dissectible Model of Queen Bee	4/6	3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	1d.
Fifty Years Among the Bees (DR. MILLER)	5/-	5d.
Honey and Health (A. HOPE)	-/6	1d.
Honey Vinegar (REV. G. BANCKS)	-/2	1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	2d.
Productive Bee-Keeping (PELLET)	10/6	6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.)	2/-	3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	2d.
Scientific Queen Rearing (G. M. DOOLITTLE)	3/6	4d.
Snelgrove's Method of Re-Queening	-/6	1d.
The "Townsend" Bee Book	2/6	2d.
WAX CRAFT (T. W. COWAN)	2/-	2½d.
Wilke's Book on Swarming	1/-	1½d.
MISCELLANEOUS.		
Maeterlinck's Life of the Bee	3/6	3d.

The Lore of the Honey Bee. By TICKNER EDWARDES. 2/-, postage 2d.

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON W.C.2.

Honey or Jam Spoon



Well plated on High Class Nickel, Will not fall into the jar, thus avoiding sticky fingers or spoilt table cloths. A neat and useful present. We have a few pairs in velvet lined cases for sale. 5/6 per pair. Post Free.

BRITISH BEE JOURNAL OFFICE,
23, BEDFORD STREET, LONDON, W.C.2

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.

Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.

A. GORDON ROWE, 28a, Moy Road, Cardiff.

LACONIC.

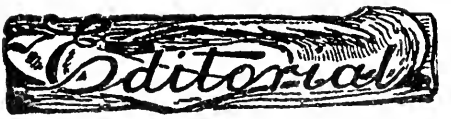
The "Masheath" has arrived,

It's a joy!

Writes A. S., Oct. 15, 1919.

Sole Maker :

M. Atkinson, The Bee Park, Fakenham



British Bee-Keepers' Association Conversazione.

MR. BRYDEN'S PAPER ON WINTERING OF SMALL STOCKS AND NUCLEI INDOORS.

MR. CHAIRMAN, LADIES, AND GENTLEMEN,—

The ten minutes which has been allotted to me for the subject of "Wintering of Small Stocks and Nuclei Indoors" is a very limited time indeed, as I consider this subject one of the most important at the present time, when so many nuclei are being made each year; in fact, our wintering system requires revolutionising, both with stocks and nuclei. No epidemic can record such a death toll as starvation. Beginners especially very often fall into this pit. While the practical bee-keeper and the breeder of bees may not be caught napping, he is very often left with a lot of poor stock to winter.

I would therefore like to put before you a method for wintering. It is one which I have tried for the last two years, and intend to do so again in a much larger way than ever, which speaks for the past success. That method is wintering indoors, or some such place which can easily be adapted for this purpose. There are three essentials for this ideal wintering.

The first thing is to find a place where you can have reasonable control of *temperature*. The second is the reasonable control of *ventilation*. While the third is absolute darkness of your shed, pit, cave, or cellar. So you have it in these three words—Temperature, Ventilation, and Darkness.

1. The temperature. This I have found by experiment to be the best is 47 deg. Fahr. If your thermometer rises to 55 or 60, the bees will very soon commence buzzing and be discontented. On the other hand, should your thermometer show a fall to 43 deg., or below, a winter nest or cluster is then necessary for the preservation of the stocks. But the number of stocks may regulate the temperature according to the size of your cellar.

2. The question of air depends entirely upon the temperature of the cellar and its control. Should you be so fortunate as to have a place where the temperature can be kept at 46 deg. or 47 deg. Fahr., then there is little or no need for ventilation, taking care that foul air, dampness, gas, and oil stoves are not present. All these have obnoxious odours and are detrimental to bees.

The third is darkness, and it is absolutely necessary to have your cellar perfectly dark. The size should be in proportion to the number of stocks. A cellar 12 ft. by 12 ft. by 7 ft. high would winter comfortably sixty nuclei, but I consider a much less quantity would be to the advantage of the bees and the bee-keeper.

Now we have to consider four very important points, viz.:—

1. When to take your bees indoors.
2. How and when to feed when you have got them there.
3. When to take them out of doors.
4. How to feed them in the spring.

The first point—when to take the bees indoors. It is very important that you should examine all stocks some little time previous to their removal, and record in your book the real condition of each one. This will save you much trouble afterwards. The weather, and the locality, should give you the deciding date when to remove them, but, generally speaking, very soon after November 1 is the best time.

The second point—winter feeding. After you have got them into the cellar you may commence feeding with candy, made on the hard side rather than the soft, as the moisture from the bees will soften it a little. *I used that horrid Government "Bacterol" candy, which has killed all the bees in the country*, with the greatest of success as a food, and in every instance each queen commenced to lay within seven days after being removed from the winter quarters.

On no account feed syrup during their confinement, as the bees cannot get out for the necessary cleansing flight. You will find that bees wintered at 47 deg. Fahr. require little or no food, as they are in a state of semi-hibernation, which practically amounts to suspended animation.

The third point. When the wintering is over, and all our hives and feeders ready to receive the bees in the early spring. Here, again, the weather and locality determines the date of removal. This may be done by removing the strongest first, others following as the weather improves—say, March 1.

The fourth point. As soon as they are taken out, commence feeding with a universal feeder, giving one or two holes, and continual feeding, when I feel sure these poor weaklings will be as good as any in your apiary by the middle of the season.

Here are a few of the advantages which I claim for indoor wintering:—

1. It saves your bees.
2. It saves your queens.
3. It saves 50 per cent. of food.
4. It saves your hives.
5. It saves your labour.

I would like to see established central wintering sheds or cellars for every county. Also, central queen and drone rearing stations with bee-breeding apiaries attached; a central honey or produce market; and, lastly, a scientific and experimental apiary for every association, with a fully qualified and well-paid expert, who would uplift our ancient and noble craft.

(To be continued.)

Review.

THE BEE WORLD.

We have just received the special autumn number for September of this interesting and most instructive paper. Like the other numbers, it is full of good things. The editor, Dr. Abushâdy, may always be relied upon to give very original and practical ideas, either in treating of some phase of bee management, or in his notes and helpful criticism on the methods, practical or otherwise, of others. No one who knows him personally, as we have done for some time, or even those who have only occasionally come in contact with him, can doubt his enthusiasm for the craft of bee-keeping, or his desire to lift it to a higher plane. Dr. Abushâdy is bringing out a metal foundation, and has had some in use with success. The following is an extract from the "editorial" of the September *Bee World*:—

"People are often apt to attribute to bees more than they are capable of, and to look upon their wonderful little heads as diminutive human heads. At the same time, the modern apiarist, who should be capable of thoroughly studying the habits of his winged friends, and of persuasively using their instinct to the best of his advantage, is equally apt to get satisfied with what he has accomplished, to become a second type of a conservative who will look, probably, through the long monotony of his study, on his more progressive colleague as a crank, and will not believe that anything can be added to the wealth of his knowledge."

A plain glass foundation is then suggested for an observatory hive, as a means of studying the development of the larvæ, as "at a glance the naturalist can study the mysteries of the developing larvæ, once a small colony is established, and the hive is in working order."

"The same apathy and misbelief which have prevented the development of such an observatory hive as we suggest have also prevented the development of the metal foundation, in spite of the presence of both metal and wire.

"Conservative commercialism will endeavour to attack science and common sense. We shall be assured that there is nothing superior to the nuisance of broken wax combs, to the defections of wiring foundation, to the excellence of old, dirty combs, and to the like . . . . . and they will argue that metal foundation on which full wax combs are built will dissipate the heat! But how? From one side of the comb to the other? And when bees are established on both sides, and wax is so much advertised as an excellent non-conductor of heat, and when stores serve as retainers of heat? . . . . . *Preservation of life within the hive is not so much dependent on insulation from an internal enemy as on insulation from an external one.*"

In connection with the metal foundation (which must not be confounded with the metal *comb*), in a letter to us, Dr. Abushâdy makes the following offer:—

"Now regarding the *metal foundation*, I would request you to announce that, with the permission of the B.B.K.A., an exhibition of an observatory hive containing bees building wax on metal foundation will be presented by myself on Friday, November 7, between 2 and 4 p.m., to members of the Association in its museum room."

We are sure neither Dr. Abushâdy or the B.B.K.A. would desire to exclude any bee-keeper who is interested and is not a member of an association, and we have therefore no hesitation in cordially inviting any bee-keeper who would like to do so, to pay a visit to 23, Bedford Street, on Friday, at the time given.

A Dorset Yarn.

Bournemouth autumn display of flowers and fruit was very largely attended, and not the least attraction at the beautiful winter gardens was the honey classes, one competitor (I assume a lady) had the sections decorated with a narrow band of flesh-coloured ribbon tied in a small bow on the top. Round the caps of the screw bottles was the same pretty string of ribbon. It added materially to the appearance of it, but should not expect it to meet with an expert's approbation, as judges could follow the same competitor through all classes. A very fine observa-

tory hive, with ten frames of comb, and very strong with bees, added much to the interest in that most attractive part of the building. Mr. Gidlow, the owner, told me that he always kept it in his office, with an entrance through a tunnel. A Bournemouth builder by profession, but an enthusiastic bee-keeper, he showed all the up-to-date appliances, but the living bees, hurrying hither and thither, trying to get out, was one of the most attractive units in the truly wonderful display at the winter gardens.

The second day of the show a few of the bees had died, and the workers were carrying them from side to side, but could not find a way to get them out. It shows that the long exposure to daylight is not to their well-being.

We still have our bees round the farm each day the sun shines; each hive sends out some. We have heard no song of robbers; all seem to have the usual song of content, though the number that fly are infinitesimal to what there was each day a month since. The demand for honey has not diminished, neither have the willing purchasers of bees got less, which proves to me that the craft is in a very good way indeed, and if stocks winter well at our farm we shall be back again as old times. The dry autumn ought to be in their favour for wintering, though being out every day must use up some of their stores.

On the farm now we have harvested the largest mangels we have ever had, in spite of the dry weather. Our cows will have plenty of food, though hay is short. Swedes and turnips we have given them in the grass fields every day. Good tillage is paying us on the land; heavy weights of produce follow the more the land is worked. Flowers which we grow are giving us fine prices, but the frosty nights have diminished the quantity. The best line now is young bush fruits, for which there is a great demand. The black currants, yearling plants, from cuttings put in by soldier labour last autumn, will soon be all cleared out at good prices. These were inserted in the soil in long lines 200 yards long; now they are taken up and sold, leaving those to stay at 2 ft. 6 in. or 3 ft. apart to grow into fruiting bushes for permanent crops. Young budded apples, three and four years old, are now sought after at 5s each, so great is the demand for them. These, with the bush fruits, will well pay any bee-man to add to his store of food for them at the time they want it most, and the surplus plants that he sells will pay for all the labour, leaving him with his rows of permanent crops to carry on the harvest, which soon comes with bush fruits.—J. J. KETTLE.

Jottings from Huntingdonshire

I do not know what time the lark gets up in November, but I am sure I was up before him this morning. Last evening's sunset foretold this glorious day, so I got up to see the dawn. The waxing moon had, some hours since, gone, down under, to help the cowslips and tulips grow in that land where Maoris with our kinsmen dwell. And what a dawn it was! A star-bespangled sky, cloudless save for a few misty vapours in the east, looked down upon a silent world. A mellow tinge was in the air, but not a sign of wind. Grey stripes, both dark and light, gave way to blues, to green, then gold, and stars began to disappear. The misty vapours roll themselves up like steps in some great orchestra, each step is grey but crimson-tipped. The colours intermingle and take a purplish hue; this soon gives way to shades like orange wine, which lighten to the hue of fire. The sun, blood-red as he sank last night, rose up to-day wondrous clear. 'Tis a wondrous day. A day sent on in advance from the coming spring—or maybe one held over from last June. Once more the Great Eternal has spoken, "Let there be light," and the day is here. The birds were soon about. A dozen field-fares settled near me on a privet hedge and looked askance; was I friend or foe? They were not afraid, and took their fill of berries ere they went. I took a spade and dug. I had some loganberry canes which needed planting—work so much overdue. A robin perched upon the fence, and flitting to and fro, asked "May I take a worm." I move away to give consent. She pounces down and seeks a titbit from the upturned soil. The planting done, I go and take a rest before the hives. The sun is well up now and the day is good—too good a day for bees to miss. When will they come out? I stand and watch. The springlike warmth has already caused a stir within the hives. Scores of bees are rushing to and fro behind the entrance on the floor. Their excitement is great, and they are seen to embrace one another in their joy. Sentinels come out, and describing a semi-circle on the alighting-board, return to say the day is fine. A scout or two come forth, halt on the alighting-board, and hurry back to say that I am near—do I mean well or ill? One is sent forth to see. Straight she comes and buzzes around my face. I do not flinch nor fence. Did I do so many more would come and compel my flight. But the scout returns and reports "All's well," and so they issue forth, now six, now ten, now twelve. Not for cleansing flights alone is all this noise, for one returns with pollen-laden legs. Whence came it? The

malope grandiflora is still a-bloom, and radishes are blowing well, single dahlias are opening forth their latest buds, and last, many rose trees, too, are massed in bloom. A sprinkling of wild flowers is still scattered about, while the anchusa and late ivy bloom apace. I look around amongst the flowers. Ah! here they are. The evening primroses are yielding up their pollen to the bees. The bees are Dutch—where are my golden friends? I take a little honey and drop upon the petals of a half-opened rose, and gently go and catch an Italian and place her near. She takes her fill, and goes to tell her friends. How soon they come! The rosebud now is covered with buzzing life. Its little stalk, however, has been weakened by the nightly frosts: it breaks, and falls with bees attached amongst the periwinkle 'neath the bush. Startled, and some half-stunned, the "honey flies" are loth to leave the sweets so easily got. I fain would repeat the experiment, and drop more honey on another flower. But 'tis not wise. Nectar too easily got would give the bees desire to gather more with no less labour, and that way robbing lies. A little Izal water, warmed, is sprayed o'er the fallen rose, and on the ground around. The little ladies scuttle off, and a spit of earth buries any remaining honey from their sight and smell. They buzz around the other roses near, but finding no nectar there they wing away to other flowers, and take a dip at the persullation on the cypress trees. I roll the lawn—hidiotic occupation on so mild a day. From behind me comes a greeting. Two colts have come to the fence to say "Uff-er-er-er-er," which in horses' language means "Good morning; have you titbits for us?" Often, when mowing the lawn, I have shaken the cuttings over the fence for them, and they are not yet old enough to understand a roller does not cut grass. Another droning than of bees floats through the air. It is the drum of the threshing-machine. Rising o'er the byres and sheds of a farm near by are flakes of steam condensed. They float lazily with the faintest breeze, and gradually fade away. The drone keeps on, and impels me to where the stacks of grain are waiting to be threshed. A human hive is here. A dozen men engaged; some throwing sheaves upon the platform, where stands a man who, cutting bands, passes them on to a mate, who feeds the drum. Others watch the sacks fill up with golden grain, then carry them to the barn, where all is winnowed, sacked again, and placed in wagons to be carted to the station, seven miles hence. An elevator lifts the straw up to the rick, upon which three men stand building up the stack, only to be pulled down again as winter passes on, providing litter and fodder for horses and bullocks alike. A land girl bravely gathers up cavings in a cloth, and shoots them in the chaff-house, and returns for more. I take a fork awhile, and so relieve an old man nigh fourscore. He sits down near the engine and rests and smokes a pipe, which, once white clay, is now almost as black as coal. The whistle blows, steam is shut off, and all seek their baskets, wherein are refreshments, they eat and drink and rest. Across the way two mighty engines stand in a field pulling ploughs six shears wide through the stubbled land. I perch myself upon one of the plough seats that I may talk and hinder not. As we go scuttling to and fro we pass many roots of charlock all in bloom; the bees are dancing from flower to flower, finding little nectar but more pollen. A Red Admiral butterfly is flitting here and there, and a thousand starlings come and settle near; they rise, they wheel around, and settle once again. Wireworms, earthworms, and other forms of life rapidly disappear into their little crops. It is lunch time now. As I pass my hives near the house I note them still to be throbbing with life and joy. But later, as I go to post the letters, the sun is near the west, and the "honey flies" have returned back to their homes. A stray one here and there lights on the board and hurries in. Half an hour after the apiary is quiet and still. I place my ear against a hive, a gentle hum, like the last vibrations of a tuning-fork, announces that all is well. The hive is cleansed, and all within is peace.

E. F. Hemming.

Steeple Gidding.

P.S.—My enquiries *re* the tea tree have brought me many replies. I thank them all. It appears to be Lycium barbarum (family, Solanaceæ). It was introduced into England towards the end of the seventeenth century, and is known in some counties as the African boxthorn, or African tea tree, and, I am assured, is stocked by most nurserymen.—E. F. H.

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

373. What can be done to prevent the queen from ascending from the brood box to lay in drawn-out comb in sections or shallow frames?

374. Describe a winter passage, and state how it may be made, and for what purpose it is required.

375. Should bees desert a nucleus what is to be done?

376. For what purposes is water used by bees?

377. Compare the use of a solar extractor with that of a wax-press for rendering wax.

378. What favours fermentation in honey?

379. How may a queen in a nucleus be ascertained to be fertile?

380. What should be done when the loss of a queen from a colony is discovered in late autumn and no fertile queen is available for re-queening?

381. How may the quantity of winter stores in a hive be estimated?

382. Comments on the use of a super-clearer from the point of view of ventilation.

383. How may the granulation of honey be (1) hastened, or (2) retarded?

384. What considerations govern the number and size of frames in the brood chamber of a hive?—J. L. B.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

A Novice's Protest.

[10032] Will you please permit me a small space in your valuable paper, to reply to an article written by Mr. Manley, regarding too much attention being paid to enrol bee-keepers instead of looking to the already too many, or the few who would like the bee industry to themselves. I wonder what would become of the bees (if there are any left to look after) when the "would be's" die, because they cannot take them with them. I for one am affected by his article, being enrolled only last August. I would like to state it is not only learners that get and spread the "Isle of Wight" disease, for the stocks of friends from whom I have bought bees are affected, and they are old bee-keepers. I am pleased to say the disease is killed, but it has left his stocks so weak that he will have to unite to go through winter. This is not the first case of "Isle of Wight" disease that has been cured. Although my bees are free, others all round are affected. I have three stocks healthy, and intend to get more next spring, say a "bee farm," but not to monopolise the bee industry. If any novice or other reader has got a stock that is strong and affected with "Isle of Wight" disease, or two weak stocks to unite and thus make one strong stock, send postage, and I will supply them with the same remedy that has cured several.—C. J. Beecroft, 95, Sutton Road, Huthwaite, Notts.

Further Remarks on Frames.

[10033] It may be assumed as correct, that the bee-keeper who has only a few hives will do best by using ordinary 9-in. standard frames as brood frames, for if he changed over to larger ones, he would probably be unable to get early sections, and have, perhaps, reduced surplus later on.

It should be remembered that when we give the queen more room, we are also giving the workers more room to store in, and it is only after a good proportion of honey is stored in the brood chamber, that they go above, and off those combs, so that we should probably be longer before we saw it stored as surplus.

We do not improve a queen's laying capabilities by putting her on larger combs, but only reduce the possibility of her being short of room. A queen which is only a poor one, and unable to satisfactorily fill a standard brood chamber, would do no better on larger combs, so that larger combs do not mean larger stocks, which we should require to get early surplus.

But with expert management, and using queens in full profit with strong stocks, such a queen would do well on large combs, and it would pay to put such on them, but in an apiary which has a proportion of weak stocks, swarm lately hived, and nucleus lots, the proportion of extra good queens may be low, and it would be waste of hive room to put all on large frames of comb, and to have the best queen on frames of comb which require a special large hive would be unworkable.

The bee-keepers who standardised the present frames did the best under the circumstances, and if we could meet the changing condition by simply deepening the frame we would not undo their work, and in buying or selling stocks it would not greatly matter what depth the frames were, so long as they would fit the present chamber in length. Perhaps it would be rather more difficult to get perfect comb in the 11½-in. deep frame by the founda-

tion stretching rather more, but Mr. Manley's theory that the top bar would sag more than his is not correct, for he reduces the frame slightly to make it stronger, and at the same time is weakening it by making it longer. This is a problem in applied mechanics, for in both the 14-in. or 16-in. frames the comb has the same area to an inch, and would be alike in weight, even when filled with brood or stores. Without now working this out in figures, I might ask him if he had a 14-ft. plank spanning a brook, and it was unsafe under his weight, would he move it to where the brook was 16 ft. wide to make it safer for him to cross over?

The theory that the frame is more likely to twist than a shallower one of the given dimension is another fallacy, also that deep frames would crush more bees by sagging. I might say to Mr. Atkinson that the fact that the 16 in. by 10 in. frame is in use, is no proof that it is perfect, or makes it capable of being put in use without extensive alteration of hives. I plead guilty to advocating a slight change of frame, but this is trifling to making a complete change of hive. Consider the amount of timber used in the two ideas. One cannot, as a rule, lengthen a brood chamber 2 in. and put it in the outer case of a W.B.C. hive. I had in mind the fact that pine deal is cut generally to a standard of 11 by 3, also what the timber merchant calls pine boards, which probably some may think is the same class of wood, is really a variety of the pine.

These boards may be obtained 24 ft. long and over 24 in. wide; it is a slightly coarse wood, without knots generally, but requires storing to get it seasoned: it will probably be obtainable as soon as required.

I suggested the 11½ deep frame which I was convinced would meet the requirements of the majority of bee-keepers wishing to use larger frames, and I have since made such a hive, and been able to put 5½, by 8½ or 11½ frame in as I wish. It has so many advantages that I shall make more.—F. B. Charlton, Stockton-on-Tees.

Notes on Bee-Keeping.

[10034] Many commence bee-keeping with the idea that it is simply to obtain a hive, stock it with bees, and then allow them to look after their own and their keeper's interest. This idea has no doubt arisen from the fact that before the modern system of bee-keeping was introduced that was the only method of keeping bees, but such a system is of no use with modern appliances. Those who have an idea that bees require no attention, that care little for their requirements, be it food in winter or ventilation and shade in summer, their only thought being the amount of honey they can get without any trouble to themselves, had better by far keep the old straw skeps. The idle bee-keeper cannot be successful. There are, of course, just a few who are physiologically debarred from being bee-keepers in the true sense of the word, but these are seldom met with. For one who, when stung, feels the effects in a highly dangerous form, it is extremely injudicious to keep, or rather handle, bees. There are many idle bee-keepers—and I wish to emphasise this—who through their idleness are a means of spreading the much-dreaded "Isle of Wight" disease. To these my advice is: Either a little more energy or get rid of the bees. A modern bee-keeper who wishes to obtain the greatest results, both intellectually and financially, is one who will neglect no opportunity of attending at the right time to the wants of his bees; procrastination must form no part of his character. It may be that just at the moment when his attendance is required, if he procrastinates, that golden moment is passed, and in such an uncertain season as ours is never regained. Fear of his labours must be banished from his mind; nothing is gained by being afraid of them. There is no necessity for rush; if a bee means stinging, one can't get away from it. One might as well try and dodge the lightning as to get away from a bee that has made up its mind to introduce its weapon into one's skin. A careful, persevering man is bound to succeed.

An observant mind is a great desideratum. It is by noticing the behaviour of the bees that a knowledge of their requirements is gained. Notice the movements of a queenless stock in comparison with one having a queen. Their movements outside the hive are a certain indication of the condition within. Open a hive, and if the bees are going to oppose you an observant eye will foresee their intentions at a glance.

How many times is the question asked, "When does the honey flow begin?" An observant bee-keeper will know at once. A certain amount of business tact will be required in finding a market for the produce, and here the careful bee-keeper will gain the ascendancy; his honey will be neatly packed, and graded as to quality. The careless will have theirs with propolis on the sections, honey leaking from the bottles, and a look of messiness pervading the whole—a bad market being the result. Finally, if a bee-keeper wishes to be successful, he should read up some good modern bee-book; theory and practice go together, of this I am assured.—P. Lythgoe, Padgate, Warrington.

Re-Print of Articles by "Lordswood."

"CONDEMNED" BEES.

In the years gone by at this season we used to go round with pony and carriage rescuing condemned bees. That was when we were young and energetic, and had visions of a garden (day-dreams) with fifty hives down one side of it and fifty down the other. The garden is there right enough, but somehow the bees never increased beyond twenty hives; or, if they did, someone came along and made us a tempting offer, and so the bees went. Bees in these parts do not swarm very readily. If you super early they rarely swarm at all, so to increase the apiary it is necessary to artificially divide or make extra stock in the autumn with condemned bees. In those days we were young and inexperienced, consequently the bees (and ourselves) suffered untold agonies. We tried to make our stocks, that were strong enough as they were, extraordinarily powerful by joining a peck or so of bees to them. We put a cloth up to the entrances, and threw down heaps of homeless bees, scenting them with peppermint as they tried to run in. The rightful owners, however, would not have them at any price, scented or otherwise. As fast as they bundled in the rightful owners chucked them out again, and on the morrow there were what looked like millions of bees dead and dying before the entrances. When all was over I think the stocks were weaker than before we commenced to strengthen them, and only the ground profited through being fertilised with the bones of the dead bees. That was our first "driving" experience. The next year we tried a different plan. We secured the condemned bees (condemned by the cottager, and, as it turned out, "condemned" also by ourselves), and upon our arrival home, late at night, proceeded to open the hives by moonlight! Not weakly hives, but powerful colonies, in which the bees were packed like herrings in a barrel, for the supers had been taken off, and all the bees were forced into the breeding compartment; consequently no sooner did you drag off the quilts than the bees boiled over the frame-ends, up the roof, and hung in festoons over the sides. Still, we wanted at least 160 lbs. surplus from each colony next year (see Mr. Pettigrew's book on bees), and so we proceeded to strengthen them. The hives were opened, as I have said, by moonlight, and the frames were drawn apart. At that time we had not that absolute control of our nerves so necessary for successful bee-keeping. Our knees *would* knock together, and our hands *would* shake alarmingly, especially when we had had a little formic acid injected with the neatest of all syringes into the end of each finger and thumb. The frames were drawn apart; then a skep was lifted, inverted, and the poor condemned bees dosed with scented syrup till they were black in the face and body. Then they were thrown mercilessly into the boiling cauldron of bees, seven times heated, and the quilts thrown on, loosely, so that all the bees might go in if they felt so inclined.

Each of the hives were thus dosed with bees, while the world of men (unhappy non-bee-keepers) slept, and several night-jars (cats) became wakeful and sang sweetly on the slates, which, no doubt, were cool to their feet. The moon shone serenely, calm and unmoved, as though she knew nothing of the ways of men, but amongst the constellations I thought I saw some eyes that were lit up with the semblance of a smile. Towards the dawn, say three of the clock, when we had succeeded in ridding ourselves of the last bee, for, be it known (and well remembered) that condemned bees are infinitely worse than your own (to use a pigeon-fancier's phrase) "stout" bees. The latter have a home to go back to if they feel so disposed, but condemned bees are "strays," that want no whistling to make them come to you, nor even the rattling of Indian corn in a tin. I do not mean to say they are vicious. Certainly not. They are, in fact, too amiable—like flies of a drowsy August evening. They settle gently down on your eyelid and in your ear, and say, "Here, my dear fellow, I am going to stay, and if you knock me off a thousand times I shall fly back again. Your only remedy is to kill me, and you can do that if you like, for life isn't all buttercups and daisies and honey." I am afraid we did have to kill a few, sadly, and with tears at the back of our eyes, and then we crept in the small, still hours of the early dawn as quietly as we could—the more you try the more noise you usually make—up to our beds, where in time, through exhaustion, we fell into troubled sleep. I would dream that the bees were thickly spread all over the pillow, so that I must hold my head perfectly rigid lest I should pinch a row of bees and make them sting! This was tedious work, holding your head so still; but when the bees began to climb over my face and cover my eyes and mouth, so I could only breathe with a half-smothered feeling, it became terrible. What could I do? Shout I dare not. It would be the signal for a thousand stings. The bees were getting thicker and thicker, now pressing their heads in

between my lips, now digging their heels into my eyes! I could feel their soft, warm bodies palpitating, and see the drops of poison held out on the ends of their stings; and then they crowded over my nose till I could endure it no longer. So I took a wild leap into the air, shouting "Murder! Police!" And then I fell back on to the chest of my brother, who thereupon jumped up and shook me till the tears came from the back of my eyes into the front. Under this vigorous treatment I soon awoke, and very pleasant it was to get back between the sheets and lay my aching head on the pillow. Never before (only on similar occasions!) had a bed seemed to me such a noble invention. I even pitied the poor angels, who, of course, have none of these luxuries.

In the morning, when the sun had climbed a full mile—an Irish mile—into the sky, we dressed and hurried into the garden—where we found a pandemonium indeed. The stocks were killing all the bees we had introduced! There were heaps under the alighting boards, and, worse still, all those stocks that had had no bees joined to them were robbing one another in all directions. Never was such turmoil, such slaughter of the innocents. By evening every bee had been condemned, executed, and thrown outside the city gates, and again the garden was fertilised with the bones of busy bees. Again we felt broken bee merchants, forlorn and sad. All our labour was in vain. But as years came and went, so we persevered, until we had mastered the problem of joining bees to bees. The solution of the problem is a simple one. You must make all the bees *homeless* waifs and strays. They will then unite and be as happy as doves, or as the days are long.

My experience teaches me that condemned bees are valuable for increase. If you can give them some frames of comb and honey, then feed gently for a time, they usually make splendid stocks. I would, however, urge that it is a mistake to join them to stocks that are in good heart, such as swarms of the current year and the stocks that gave these swarms. Rather join them to hives that have old, failing queens, queenless colonies, or very late casts. I have half a dozen or more casts, which came off in June, in such excellent condition at the present time that it would be sheer madness to attempt to strengthen them with condemned bees. Again, I would urge beginners, if not old hands, to leave condemned bees severely alone by daylight. They settle about everywhere, and thousands are lost. If you wish to join them to a hive, shake the bees off the frames into a skep just before dusk. Then at dusk throw these bees on to a board in front of the hive, previously opening the entrance full width or propping up the hive front, if possible. Sprinkle the bees a very little with flour, then, as they commence to run in, shake on to them the condemned bees; sprinkle as before and they will all run in together, without any bees flying and without any fighting. If you wish to form a new colony take a frame of comb and honey from several of your stocks that can spare them, or, failing these, fit up your hive with frames full of foundation and wired. Prop up the dummy so that bees can run under, but do not space the frames wider apart.

Open the entrance full width and lean a board or cloth up to it. Then go and fetch your bees and a good large cloth that will fall over the outside of hive on all sides (I use a dust-sheet, but don't mention this to the mater, please!). When nearly dark, or even after dark, uncover your skep or box and lift it gently on to the tops of frames. Now shake the bees out in the usual way on to the frames, and immediately let your assistant throw the "dust-sheet" over so that it hangs completely over on all sides. An hour after put on the roof, and in the morning take off the sheet and put on a calico quilt, etc. This is a much better plan than running them in through the entrance, for the latter is a tedious job, and often in cool evenings many bees are chilled, or wet may come and drown a lot. The main thing is to get the cloth over the mass of bees before they have time to spread to the sides of hive.

Never examine the bees for several days after, *i.e.*, not till they have had a flight and marked their location. Never attempt to hive them or an ordinary swarm in this way *in the day time*, but always after dark, and *never* feed swarms, or condemned, or any bees, whilst in their travelling skeps or boxes. *Experientia docet.*—LORDSWOOD.

For the Bee's Sake.

For the bee's sake I live in Suburbia, or rather *roost* in Suburbia: the City's throbbing heart claims me all day. There I struggle for myself and for the lives of others—the one is egoism, the other altruism. The one is selfishness, the other unselfishness. Of which do I possess the most? I dare not trust myself in the scales with altruism! It is fully three miles from my office to my home—three long, weary, British miles, up streets and down streets, and round corners. Along long roads, dusty in summer and dirty in winter, until you come to real hawthorn hedges and patient privet. Here dwell retired tradespeople in mansions standing in gloomy grounds thickly besprinkled

with laurel and privet and speckled aucuba. You can tell they are retired tradespeople because they have a plate fixed on the back door with this inscription—"Tradesmen's Entrance."

I am walking about all day, week in and week out. I get worn out and tottery like an old man of 80, and yet, in addition, I trudge the three weary miles night and morning, from and to Suburbia, for the bee's sake.

Every morning and evening for 17 years, think of it! Think of the pairs of boots ground to powder, and the energy expended in that weary business of putting one leg before another leg, and all for the bee's sake!

I know every blade of grass, every plant of shepherd's purse, every stone; I know the hedges inch by inch, and all the boughs and twigs of the trees. Many were mere nursery youngsters when I knew them first, and now they are great in bough and leaf, immense dark hollies (or variegated with gold and silver), and great towering limes, weeping elm, and birch. But what were fields are now desirable residential properties, replete with every convenience, guaranteed not to tumble down within 20 years. There are rows and rows of them, hundreds of exactly one kind, so that the resident can only tell his own home by the number on the gate. They spring up like mushrooms almost in a night, and in a month or two you forgot the fresh young grass and the sweet clover the bees loved that grew where they now stand. Soon I shall have to move farther afield. Neither I nor the bees can stand this great strong tide of bricks. My ancestors were tillers of the soil, bee-keepers, huntsmen, lovers of the country always; and the bees' ancestors, were they not ever passionate lovers of the flowers?

We will haste away ten miles out, where there is ling and heather, and where the banks are covered with the sweet wood sage. There we will sow our wallflowers and mignonette, and plant our roses. Felicité Perpetué shall clamber over our roof, and L'Ideal peep in at us through the windows, and Rêve d'Or (dream of gold) gild our garden beds.

A kindly train will carry us swiftly to and from the City. Sometimes it will be an hour late (generally when we have had a good run to catch it); sometimes we shall miss it by ten seconds; often we shall oversleep ourselves and have to rush off without any breakfast. We shall suffer terribly with indigestion, and contract heart disease, and get low and dispirited through eating cookshop dinners, and weak and ill through hauling grocery, etc., home from the City. But we will suffer all this, and more also. We will cut ourselves adrift from society, from balls and soirées. Concerts, music-halls, and theatres will know us no more. Out of the swirl of the City, into the train and out of the train, to grope along dark country lanes in blinding rain or through 3 ft. of snow. That is what we shall do for the bee's sake!—LORDSWOOD.

Combs from Other Hives.

To Bee or Not to Bee?

(It has been discovered that a bee-sting is an almost infallible test as to whether a person is likely to succumb under an anæsthetic. Bee-stings affect the glands of persons suffering from a certain form of nervous weakness.)

I requested my Dentist to pull out a tooth.
The man was entirely impervious to ruth.
"Just open your mouth," said the case-hardened ass.
I answered him firmly, "I'm going to take gas."

"Got a doctor's certificate!" next he inquired.
But I couldn't produce the credentials desired.
"Then come to the hives," he commanded, "with me,
And we'll try the infallible test of the bee."

I went to the hives in a good deal of doubt.
For I wasn't quite sure what the test was about.
At a hive which appeared to contain a Jazz-band,
My Dentist said carelessly, "Put in your hand!"

* * * *

As it seems I have glands and a strong nervous weakness.
Ungassed I confronted the forceps with meekness.
But the next time I'm ordered the Bee-Test to pass,
Before they apply it I'm going to take gas.

TOMFOOL.

—From the *Daily Herald*.

Things Seen from the Farm.

THE SWARM.

The air is musical, and through the open window comes a melodious drowsy hum like the droning of a distant aeroplane that tells us our bees have swarmed.

There is a rush into the garden, where above us in a dense cloud the hosts of flying emigrants from the hive sway joyously in the breeze. But the breeze is

strong; and a great fear rises that they will be blown away.

Wherefore, under instructions, I train the garden hose on them, and the gentle spraying of the water brings them together and then brings them slowly, slowly down till at last they alight in a thick, clamorous cluster on top of the loganberry, where it sprawls luxuriantly over the pergola.

One of the women folk, veiled but greatly daring, climbs up the garden step-ladder and seeks to dislodge them. It is true she succeeds, but only in inducing them to fly once again.

They whirl about in the air; they are blown over the laburnum; they pay no heed to the loud clangour of the frying pan as it is vigorously beaten with a hammer by the lady of the house, they are going from us—when, suddenly and mercifully, the wind drops, and they, too, drop and rest on a branch of the pear tree.

The veiled women are swiftly at work. Beneath the branch a sheet is spread; a hive is placed near it; from the sheet and partly covered by it, a board gives access to the hive; two or three smart blows on the branch, and on to the sheet the cluster falls, a crawling, singing, happy host.

Then the veiled women, equally happy, fall on their knees, and, reckless of stings, they induce a few of the bees to enter the hive. The rest gradually follow this example, and after a strenuous half hour of activity, the swarm is safely housed.—M. S.

[9897] In Northamptonshire (parts of), 1860-70, it was a prevalent idea that honey, taken daily with the meals, was a preventative of calculus (stone in the bladder). I have recently met with the same ideas. Can you tell me whether there is any ground for this idea, and if so, for what reason?—CARDINAL.

REPLY.—In "Honey and Health," by A. Hope, it is stated on page 28, "The benefit of the use of honey in these complaints (referring to kidney and bladder complaints) is soon noticed, especially when taken in the form of honey tea; the bland, soothing action upon an irritated state of the bladder is marked, and the deobstruant effect will be observed in stone and gravel."

Lost and Found.

At the Conversazione the stylographic pen used for signing the attendance register was lost. Should anyone have found it, please return to B.B.K.A., 23, Bedford Street, W.C.2.

A ladies' handbag was found at the same time, on a chair near the platform. Owner may have it on applying as above.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

November 25 and 26, Barnstaple Great Open Show.—Poultry, Pigeons, Cage Birds, and Horticultural Produce, including Honey (three classes).—Schedules post free from the Hon. Secretary, Wm. E. Hart, Devon Seed Stores, Barnstaple.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, to hire or purchase, second-hand Worker Foundation Mill, also Geared Extractor.—CLARIDGE, Copford, Colchester. w.1

FOR SALE, 2½ cwt. Light Cambridgeshire Honey, £10 cwt.; tins free.—HURRY, Brookfield Road, Sawston, Cambs. w.2

WANTED, to rent, or buy, in the South of England, in good bee district, House, 2-3 sitting, 4 bedrooms, bath, indoor sanitation, good garden, orchard, 2-3 acres land, near station. Advertiser is 3rd class expert, and willing to help in expert work in district.—KEIGHLEY, Green Hammerton, York. w.3

WANTED, 10 Kent Hives, Model A, made by the Bee Supplies Co-operative Association, with brood box if possible; must be in first-class order. Quote free on rail.—G. BROCKLEHURST, Sudeley, Winchcombe, Glos. w.4

COTTAGE EXTRACTOR, 30s. Following new goods: Hive, 20s.; two Supers, one Brood Box, 7s.; 30 Frames, fitted foundation, 9d. each; 3 dozen Frames, 2s. 6d. dozen; Tin Rapid Feeders, 2s. 6d.; Universal Feeders, 2s. 6d.; spun aluminium Feeder, 5s.; quantity other appliances.—56, Park Lane, Kidderminster. w.5

HEATHER HONEY.—Two cwts. for Sale, in bulk.—Offers to WATTS, Conway Cottage, Newtown, Parkstone, Dorset. w.6

WANTED, Simmins' "Modern Bee Farm" and Root's "A B C of Bee Culture."—ROBINSON, Thorncliffe, Buxton Road, Stockport. w.7

FOR SALE, 1½ cwts. of guaranteed pure Light English Honey. £10 10s. per cwt.; sample 6d. —LAW, Cuckoo, Ashwell, Herts w.8

FINEST English Honey, £10 per cwt.; sample 3d.—DUTTON, Terling, Essex. w.11

PURE ENGLISH HONEY in bulk.—Particulars, BUTLER, West Road, Histon, Cambs. w.10

9 CWTS. Light Honey, 28-lb. tins, £9 10s. per cwt., or nearest offer; sample 6d.—J. BARNES, Burwell, Cambridgeshire. w.9

FOR SALE, first-class English Honey in 56-lb. tins, £10 10s. per cwt., carriage forward; sample 4d.—ASHWORTH, Heytesbury, Wilts. w.12

TWENTY correct and concise answers came in by October 30 to our query of October 9. Twenty cards were numbered, and we asked Doris to draw the winner. You don't know Doris? There's where you lose. So do we. She drew out three! Ambleside, Birmingham and Wimborne; each win a queen.—FINIS (*née* Smith), Cambridge. w.13

WANTED, Steam Wax Extractor in good condition. — JENKINS, Swarraton Rectory, Alresford, Hants. w.14

FINE granulated English Honey, 2s. per lb.; Sections, 2s. 6d. each.—NEWMAN, Farmadine Grove, Saffron Walden, Essex. w.15

SIX 28-lb. tins of prime English Honey at 50s. each. — VINCENT, 132, Croydon Road, Anerley. w.16

WANTED, "Bee World," Nos. 1 and 2.—BLACK, Melton Mowbray. w.17

FOR SALE, 20 Section Racks, various sizes, 1s. 6d. each; 500 tin Dividers, new, 17s. 6d. per 100.—Box 51, B.B.J. Office, 23, Bedford Street, W.C.2. w.18

WANTED, Honey Ripener.—J. BIRD, Glinton, Peterboro'. v.39

WANTED, Stocks of healthy Bees; will exchange 1918 pullets, 1919 R.I.R. and Leghorn cockerels.—NEAVE, Fullview, Epsom Downs. v.41

WILL all those bee-keepers possessing 25 stocks of bees and upwards kindly send particulars to SECRETARY, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.? v.42

WILL all those who are not in favour of legislation please communicate with Box 48, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. v.28

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

"ISLE OF WIGHT" DISEASE.—Cure and particulars will be sent for 3s. 6d., postage free. —F. RUMMING, 60, West Avenue, Oldfield Park, Bath. rv.6

THE FLAVINE TREATMENT.—"Nearly two years ago I wrote you regarding Flavine. I must express myself as entirely satisfied with the results obtained. The bees in this district had died out, and I was told mine would not see the summer out. I followed your instructions, stuck to Flavine, and to-day I have 25 perfectly healthy stocks.—E. B. B., Barnham, Sussex." w.19

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

THE
British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary,
W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

Books for Bee-keepers
NOW IN STOCK.

		Postage
A Modern Bee Farm (S. SIMMINS)	7/6	... 6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	... 1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	... 1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	... 3d.
Dissectible Model of Queen Bee	4/6	... 3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	... 1d.
Fifty Years Among the Bees (DR. MILLER)	5/-	... 5d.
Honey and Health (A. HOPE)	-/6	... 1d.
Honey Vinegar (REV. G. BANOKS)	-/2	... 1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	... 6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	... 2d.
Productive Bee-Keeping (PELLET)	10/6	... 6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.)	2/-	... 3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	... 2d.
Scientific Queen Rearing (G. M. DOOLITTLE)	3/6	... 4d.
Snelgrove's Method of Re-Queening	-/6	... 1d.
The "Townsend" Bee Book	2/6	... 2d.
WAX CRAFT (T. W. COWAN)	2/-	... 2½d.
Wilke's Book on Swarming	1/-	... 1½d.
MISCELLANEOUS.		
Maeterlinck's Life of the Bee	3/6	... 3d.
The Lore of the Honey Bee. By TICKNER EDWARDES. 2/-, postage 2d.		

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

The 'Kent' Standard Model Hives & Appliances

TESTIMONIAL. *May* 12.

DEAR SIR,—I have had an opportunity of comparing the material and workmanship of your hives with others on the market, and in my opinion there is no sort of comparison between the two, yours being altogether superior in every particular.—Yours faithfully,——

S. J. BALDWIN, Stanley Road, Bromley, Kent.

"READS LIKE A FAIRY TALE."

A number of readers have given expression to their delight in exactly the same words "Your book reads like a Fairy Tale." Simmins' "A Modern Bee Farm" unfolds the Mysteries of Bee Culture and the correct Methods of Management in such a realistic and novel manner, the reader's attention is so rivetted upon the contents of the book that he likes not to put it down or leave it. Many tell how they have read it through and through, again and again, in some cases a dozen times or more; and always with a new interest.

The following are a few extracts from letters of delighted readers who have derived great pleasure and much profit from perusing this novel Fairy Tale.

A Reader's Opinion. What will yours be?

"'A Modern Bee Farm' stands absolutely by itself, as a work on bees." W. P. L.
Kettering.

Many Readers of this Opinion.

"I have kept bees for many years, and take every care I can, but I see I ought to have had your book 10 years ago."
R. F.
Cheltenham.

"Excelsior!"

"I have most of the leading works on bees (both English and American), and I have obtained more light and understanding from your book than from any other. It furnishes a grasp of the subject such as no other book does." A. R.
Sunningdale.

"Again Excelsior!"

"I have been reading every book (in English, French and German) on Apiculture, and of all the works that I have studied (especially as regards practical information) I much prefer your 'Modern Bee-Farm,' the style of which is so charming."
CLEMENT COKE.

Yet Again.

"I have read 'A Modern Bee Farm' through with much pleasure and profit. I think, without exaggeration, it is the best of all my many bee books." JOHN YOUNG.
Timaru, N.Z.

An Author's Appreciation.

"I should like to say how much I appreciate your book; it is far and away the very finest thing in practical bee literature.
OLIVER G. PIKE.

Worth £5 a Copy.

"My son and I are agreed that a 'Modern Bee Farm' is worth its weight in gold! I should certainly be sorry to take £5 for the copy I have if I knew it were impossible to obtain another." S. DEACON.
Cape of Good Hope.

Worth £10.

"I would gladly have given £10 to have had it a year ago, as it would have saved me more than that." H. L
Dorchester

Best Investment.

"I have read your book this winter and think it the best investment I ever made."
G. W. W.
Marlow.

The Fairy Tale.—Wonderful Success.

"I have had wonderful success with your conqueror and the 'Modern Bee Farm' methods. I have followed all your advice in the 'M.B.F.' by faith; at first it read like a fairy tale, with perfect success in every particular, even to uniting without flour, or drowning with syrup." C. L. N. P.
Shalbourne.

An Enthusiast's Dream.

"I had heard of your system for years, but always thought of it as an 'Enthusiast's Dream' until the other day I visited an apiary and saw the Conqueror hives filled to overflowing with 'White Star' bees; then at a glance could see that for production of honey, for ease of management, etc., your system is A1."
AN EXPERIENCED BEE-KEEPER.

From Two Hives—600 lbs.

"Two hives yielded one swarm and 500 lbs. excellent honey; thanks to reading 'Modern Bee Farm.'" A. W.
Great Chishal, Herts.

Would Have Saved Time and Money.

"I have perused your most valuable book. I only wish I had known of it before, as it would have saved me much time and money."
C. E. H.
Sutton Coldfield.

Again Thanks to "M.B.F."

"Thanks to your 'Modern Bee Farm' honey is rolling in, and taking all my spare time; although many around here are doing little or nothing." J. B
Forfar

Why Follow the Old Ruts?

"I have seen nothing to equal its stimulating heterodoxy. With a fair field half Britain should have been 'Conquerors' by now." W. M.
Dundee

No Words can Describe it.

"'A Modern Bee Farm' is splendid; in fact, no words can describe it." J. S
Linlithgow

"A Modern Bee Farm and its Economic Management," nearly 500 pages, 7/6, of the Author: S. Simmins, Queenland, Heathfield, Sussex.

Legislation.

The Board of Agriculture and Fisheries have, as is well known, taken for some time past a great interest in apiculture. They have fostered the industry to the best of their ability, and have made plain their anxiety to place bee-keeping on a sound basis, as is the case in our colonies and the majority of foreign countries.

With the appointment as President, of Lord Lee of Fareham, whose successful activities as Director-General of the late Food Production Department for the benefit of agriculture, horticulture, and kindred pursuits, are so well known that we need not recapitulate them, we are certain that the pursuit of bee-keeping will receive a greater measure of attention and assistance from Government circles in the future than it has done in the past. It cannot be denied that this attention is long overdue.

The re-stocking scheme, although, perhaps, not ideal, has proved an unbounded success, and there are now hundreds of stocks in the gardens of bee-keepers which, but for that scheme would be non-existent. The foundations for re-stocking the depleted apiaries of Great Britain have been well and truly laid. It now rests with bee-keepers to complete the work by careful selection and breeding from the best stocks, and thus to bring the bee population of this country up to the pre-Isle of Wight numbers—nay, even to exceed it, and with a better strain of bee. If this is done, then the country will be reinstated to its former proud position as leader in the apicultural world.

One thing yet is lacking, *i.e.*, legislation to eliminate, as far as possible, the menace of disease being spread by the ignorance, supineness, or cupidity of a few people. That legislation is necessary we venture to assert is the opinion of every person who keeps bees properly.

As evidenced by the extract from "The Weekly Service" of the Board of Agriculture in our issue of October 23, the Government are evidently convinced that it is necessary to protect those who are prepared to carry out bee-keeping on orthodox, and up-to-date lines, and with due consideration for their fellow-craftsmen.

Much has been written in the past as to the desirability, or otherwise, of legislation. There is no doubt that past efforts on the part of the Government to secure legislation have failed on account of the misconception by a number of bee-keepers of the Government's intentions.

We have in the past been accused of having an axe to grind in promoting legislation. Job seeking for those connected with us, the increased sale of our journals, and similar baseless, and untruthful intentions have been ascribed to us.

With regard to the former, the late Junior Editor is now in the Government service, so we suppose his desire—according to his detractors—has been obtained, and that without the advent of legislation! It might be added, that one of the persons who strenuously opposed legislation has also obtained a Government appointment in connection with apiculture. With regard to the circulation of our journals, a few more, or less, sold will neither break us, or make our fortune. We have, thanks to the generous and loyal support of our readers and correspondents weathered the difficulties and trials brought about by the war, which incidentally caused the liquidation of many similar periodicals, therefore we have no fear for the future on this score.

Both these bogies are laid so far as our detractors are concerned, as for ourselves, they never existed.

We are out all the time for the benefit of the craft, therefore, if the majority of bee-keepers are anxious to have legislation, we are prepared to back them to the utmost of our power. The minority should take it in a sporting spirit.

Our opinion at the present moment, gathered from our voluminous correspondence, is that there is an overwhelming desire for legislation. If we are proved to be in the wrong, then, as bee-keepers and sportsmen, we will accept the situation and carry on as hitherto.

We think it possible that former opponents of legislation have, in the light of experience gained during the past few years, found good reasons for changing their previous opinions on this matter, and we believe that the time has now arrived when individual bee-keepers should have the opportunity of expressing their views, and attitude, towards legislation. We have therefore decided to open our columns to both sides, so that the matter may be well ventilated, and hereby extend an invitation to all bee-keepers to communicate their views to us for publication.

For the guidance of our readers, and to avoid any misunderstanding in connection with the discussion now initiated, we

may say that no form of suggested legislation has been drafted by either The British Bee-keepers' Association, or ourselves, so that the subject can be approached by both sides with an open mind.

From the experiences given, and the suggestions made by bee-keepers generally, we hope it may be possible to arrive at a point where non-contentious proposals may be formulated, and placed before the Government.

It should be possible for this discussion to be carried out in a friendly and amicable spirit, free from all acerbity, personalities and recriminations, and we sincerely hope that our correspondents will approach the subject in that spirit.

By discussing this matter with that forbearance, and unselfishness, which are the attributes of bee-keepers generally, so that an agreement is secured, bee-keeping has a bright future before it. If selfishness, dogmatism, unreasonableness, jealousy, and personal pique, are allowed to obscure the issue, then we fear it is doomed.

As some guide to our correspondents, we propose to print in our next issue the text of the last Bill placed before Parliament, but which was withdrawn after it had passed the second reading. In doing so, we state most emphatically that this was a Bill *drawn up by the Board of Agriculture, and presented by the President (then Mr. Walter Runciman), on account of the numerous requests for such a measure received by him from bee-keeping and horticultural societies, and individual bee-keepers, and fruit-growers all over the country.*

It has been frequently spoken of as "The British Bee-keepers' Association Bill." This is not true, *the Association having had nothing whatever to do with drafting the Bill, only approving it, when it was submitted to them by the officials of the Board of Agriculture.*

We now commend the matter to all bee-keepers for their careful consideration, and hope they will take full advantage of the opportunity now offered. We need hardly add, that any communications reaching us which are not couched on the lines indicated above, we shall, exercising our editorial discretion, rigorously exclude from our columns.

A Correction.

In the notice of the monthly meeting of the Council of the B.B.K.A., the first name in the list of successful candidates for preliminary certificates should be A. Preston, not Burton.

British Bee-Keepers' Association Conversazione.

(*Continued from page* 490.)

Dr. Lord said Mr. Bryden's paper had been very interesting, and there were several points he should like to refer to. What method was adopted in taking the bees into the cellar or shed? Was any provision made for giving water, as, if candy was given, a liquifier would be needed; or, as such a small quantity of candy was consumed, were they able to do without water? How were the hives removed again in the spring? Was the entrance closed up and then gradually opened? Suppose the bees issued from the hives while in the cellar, how would they find their way back again?

Mr. Bryden found the bees did not require water, as the candy absorbed sufficient moisture from the bees. If the bees were allowed to get out, it was the bee-keeper's own fault, as they would not come out if the cellar was kept closed and the temperature was not allowed to get too high.

Mr. Eales inquired how the bees were conveyed wihtout causing them to become excited, and fly?

Mr. Bryden said the bees did get a little excited, but if the hives were kept closed up they were quiet in a short time when in the dark.

Mr. Smallwood asked how the hives were packed? Was the floorboard removed?

Mr. Bryden said the floorboard was kept on.

Mr. Watts (Dulwich) asked what advantage was gained by putting the bees in nucleus hives for winter. It seemed contrary to the advice given in the "Guide Book," which advised uniting weak stocks. If an amateur split these strong stocks into six nuclei for winter, what benefit would he obtain in the spring by so doing?

Mr. Bryden said he would benefit in a saving of food, would have more stock, and more queens in the spring.

Mr. Hill wondered how the temperature could be controlled. Would both a heating and refrigerating plant be required? Our climate was so uncertain. We might be shivering in summer, as we were last July, and some days in winter be quite warm.

Mr. Bryden replied that neither heating nor cooling plant was needed. If the cellar was underground, it could be ventilated by doors. The temperature would be controlled to a great extent by the number of bees kept in the cellar. He found by keeping the doors closed a standing temperature of about 46 deg. could be maintained.

Mr. Prior said we had always been told not to think of wintering indoors in this country, as was done in America. Our conditions are different to theirs. They have summer and winter; we have spring, summer, autumn, and winter, and in each we get all sorts of weather. When does winter begin, and which is autumn? Yesterday, it was frosty; to-day, bees are flying. Given good quilts, strong stocks, and plenty of stores, a dry hive and shelter from rough winds, he had yet to be told that bees would not winter better outdoors.

Mr. Bryden did not recommend wintering strong stocks indoors. They were better left outside. Only weak stocks, likely to die outdoors, should be taken inside.

Mr. Bryden was asked if he had made any comparative tests by wintering small colonies both indoors and out, and, if so, what were the results?

Mr. Bryden: "Yes, I have. All those indoors lived, and all those outdoors died."

Mr. Sims said, in America, judging from the American bee press, they were to a great extent giving up indoor for outdoor wintering. It was found that if the weather should turn cold after the bees were taken out of the cellar in the spring they went under. The cellar wintering appeared to weaken the bees' constitution and power of resistance to disease, and large numbers died of dysentery. From what Mr. Bryden said, the queens do not begin to lay until the hives are removed from the cellar, while in those left outdoors the queen will begin to lay in January, and he asked if it was not better to have bees in that advanced condition?

Mr. Bryden had not experienced any disadvantages up to the present. The bees did not die off from dysentery, or other epidemic. All came out alive, and he had kept a record of each stock; each had given surplus honey, and a nucleus. He did not see many eggs until the bees had been stimulated with syrup, but they then filled up rapidly. The queen seemed more prolific than those wintered outside and did better.

Mr. Barlow asked if Mr. Bryden's method was suitable for a small stock it was wished to save, and if candy was better than natural stores?

Mr. Bryden said a small stock could be saved by wintering indoors. Candy was not better than natural stores.

Mr. Thomas said he had wintered nuclei indoors, and had 16 now in a shed. He could corroborate all Mr. Bryden had said, except for darkness, and questioned if that was a necessity.

Mr. Bryden replied that the bees were kept in darkness, so that they should not leave the hives and go from one hive to another.

Mr. Harwood could see how the indoor wintering would save queens, but everyone had not the accommodation. The little suburban bee-keeper often had no cellar. Was a cellar essential, or would a shed serve? Was it essential that the bees should have all the room to themselves, or would they share it with other things; for instance, would they do in a room in which apples were stored?

Mr. Bryden said if there was no cellar the bees could be kept in a shed, and no harm would ensue if apples were stored in it as well.

After some further conversation, Mr. Reid proposed a vote of thanks to Mr. Bryden for his interesting paper, which had opened a wide field for discussion. They were also greatly obliged to Mr. Bryden for the manner in which he had replied to the many questions put to him. The vote of thanks was carried with acclamation.

(To be continued.)

A Dorset Yarn.

Only once during the past week has the song of bees reached me in the fields, that was yesterday, November 8, in the afternoon. They were flying on the rasps, as we were getting some of the best ready for the big show in Birmingham at Bingley Hall—the home in the time of Bright and Chamberlain of such fine oratory. It was but a short visit, but all three varieties were there, quite as many blacks as Italians, though writers tell us Italians work longer than blacks, but all of them were with us on the rasps. during the short spell of sunshine. How real good it must be in lands of perpetual sunshine where the songs of bees could be always with us. It is no good to moan about dull days. We must make the most of the climate we have, thankful for the spells of sunshine however short they are.

We have been deluged with reading matter this week. A fine treatise on "Honey Production," from the West of Scotland Agricultural College, by Mr. Joseph Tinsley. The "Bee World" came yesterday, all crammed full of bee lore. Shall have plenty of bee reading for some time to come; horticultural papers have rained on The Violet Farm by every post. Friends have sent them, because of the illustrations of the stuff we grow; even the large pictorial weekly "The Queen"

came "with the editor's compliments." The simple Socialist of Dorset is getting into mixed company. We never can tell when going with stuff to exhibition who will come to see us and ask of the exhibits who they represent. So long as they do not write ill of us one cannot feel hurt. We now take honey with us to all the exhibitions. It was that which brought Mr. Bevan, the able President of the Chrysanthemum Society, to see us. We are able each week that we go to the horticultural shows to meet many friends that keep bees.

Many letters that come from bee-keepers who have not been long at the craft, show they are apprehensive as to the winter food. Without a doubt bees are using stores at a rapid rate along this spell of cold weather. I have a skep which I want to take to an old bee-keeper who has lost all his, and I find each time I lift the board it is resting on that it seems materially lighter. Others write of big bud in black currants. One cannot write at length on this. They must study the papers of the Board of Agriculture dealing with it. We have never yet had it on all the acres we have. We are fortunate that it is so. We put it down to the rows being 12 and 14 ft. apart, and that we are exposed to every wind that blows. The distance allows for horses to work the land between; the wood gets ripe early, and is short-jointed. There is always a lot to learn in everything we do. I am beginning to think that covered sheds for our bees will be better for wintering than the hives standing exposed to all weathers. A neighbouring beeman, who lives at Newtown, on the outskirts of Poole, told me he always put an empty box over his each winter. Any box that was big enough to go over, it helped to keep them warm. He kept all his by doing so, which proves that some of the losses are from cold, and perhaps damp. This is a matter for each one to try as he thinks fit. Many bees live in walls and roofs of houses for many years. We want to do what is best and simplest. Bees are too valuable to be left to chance.

We see numbers of flowering plants at the exhibition, but so few are grown out of glasshouses. The shrubby Veronicas are hardy in the South of England, and they flower well in sheltered positions, the flowers must be of benefit for bees, when weather is suitable. They do not work the large violet flowers so much as they did in October, but they linger on the perennial asters; indeed, all sorts of flies resort to them, some of the two-winged flies stay the whole night, they can be seen in a torpid state on the frosty flowers in the morning, there must be some sweetness in them to attract so many.— J. J. KETTLE.

Jottings from Huntingdonshire

"If the oak comes out before the ash,
The summer will be a splash;
If the ash comes out before the oak,
The summer will be a soak;
If both come out before the elm
'Twill be a year of storm and calm."

Observant people will have noticed what a depressing effect the bare elms gave in the spring, when everything else was clothed in beauty. They were unusually late in shooting forth their leaves—May was well advanced before they had hidden their black branches 'neath a vesture of green. What causes these erratic behaviours in the tree world I cannot tell, but it certainly emphasises the wisdom of the above lines. For truly the last couplet epitomises the year 1919. July heat in May and March chilliness in July, another spell of calm and heat, more storms, and then a gorgeous autumn. How the refreshing rains of the past fortnight following October's drought, have stirred the landscape! This morning, in gathering a few blackberries for dessert, I noticed that not a few flowers were open on the brambles. Many borage plants, too, have shot forth fresh bloom, even the mallows and ragged robins are blooming apace, shall we quote "Lordswood," and say, "All for the bees' sake."

What a wonderful way Nature has of linking up every season with her favourite colour—yellow! The broom bushes which began flowering in May are still carrying stalks of bloom, and now the jasmine has unfolded its delicate yellow flowers; ere these have gone the aconites will appear, to be followed by the crocuses and daffodils, and all the mighty hosts of fragrant flowers of spring, so like the colour of the stars. Lucky bees!

I did not rise before the sun to-day. We had a social last night which lasted late, robbing us of beauty sleep, so the sun was up when I awoke. Through the open window came the trilling of quite three thousand starlings, which were carolling from a giant elm. I dressed and went out to hear these happy songsters in their quaint endeavour to mimic all the song birds of the land. No song of their own, they try to imitate the thrush, the linnet, the bunting, and almost every other bird. The strange mixture of melody is, however, cheering when November is here. As I listened, an old man passed and bade me watch my bees. I asked him why. "Starlings, master, starlings; thev'e seen your hives, that's why they've settled there." He's a wonderful old man is William Larg. Past three score years and ten, he is hale and hearty, and full of wisdom. William lives close to Nature, he loves it all. Had he

been born in a mansion he would be a great naturalist, but having entered this world in a cottage, and being sent to work at the age of nine, he is just what he is, thoughtful, observant, and nature loving, yet lacking polish. With his capacious pockets stuffed with carrots, he calls up bullocks to share his wealth. They stroll up in groups, and one by one come near and take the dainty morsel William has for them. As each eats his share, he receives a pat, and is told to pass on. Occasionally a greedy one will stroll up behind those unfed, hoping to get a second share, but William knows them all by name, and Mr. Greedy is chastised by a vigorous knock upon the nose, and is told he must do without to-morrow, and William keeps his word. "Now clear thee off. What did I tell thee yesterday, you doan't get the better side o' I." He knows so much that I always hear him with respect, so I ask him why he thinks hives attract starlings, for I'm sure starlings don't eat bees. "Not um," says William, "but they eat earywigs, though; I'll back that when you be agone they'll be hopping around the hives seeing if there be any earywigs underneath." William is wrong this time, their song finished, the starlings catch sight of three teams at plough, and rush off to help the farmer in clearing his field of grubs.

Some months ago, I mentioned the danger of bees and goats being too near to each other. The other evening I fastened up my goats safely, as I thought, for the night—it was moonlight and mild, so I did not latch the shed down—and went inside to settle down for the rest of the evening. Half an hour after I heard a rumbling as of thunder, followed by a bleat of pain—I rushed out to discover what was wrong. A goat had broken loose and made her way to the apiary, and had sent a ten-framed hive six yards from its stand. The brood box was upside down, and nanny was venting her spleen upon the floor board, which she was butting all over the place, exasperated at the stings the angry bees were giving her. With difficulty I succeeded in staying her wrath, fastened her up, and then set to work to fix up the hive once more upon its stand. Although the brood chamber had been tossed upside down, so firmly had the calico quilt been sealed down that not one frame had tumbled out, so restoring the hive to its proper place was easy, but the difficulty was quieting the agitated bees. They were everywhere, outside, inside, on the roof, under the roof, and the alighting board soon became black with them. It was, it is true, a mild night, but not a time for bees to be out. With a feather and dustpan I managed to get most of them together, and returned them to their combs, hoping for the best, but fearing for the worst.

An examination in the morning showed damage to the combs which meant honey wasted, but the bees were quite restored to their normal composure. A few that had been out all night were chilled, and I, in mercy, hastened their death. I had intended relating an amusing incident dealing with a woman suffering from rheumatism and my Liguarians, but that, with the editors' permission, I will narrate next week.—E. F. Hemming, Steeple Gidding.

P.S.—Like "Lordswood," I shall have to talk to that compositor. Fancy typing "persultation," "persullation," and "hidrotic," "hidiotic," may be my writing is his despair. Mr. Kettle will say it serves me right for using such words.—E. F. H.

Stray Notes, Comments and Questions.

Truly it has been a glorious autumn, at least at times. St. Luke's little summer lasted here six days, my bees being busy on the ivy flowers, gathering pollen. There were hundreds more flies than bees, though, apparently sipping nectar therefrom. But the glorious tints of autumn do not obtain here. True, the horse-chestnut does put on a yellow hue—'tis hardly golden: but the leaves of most trees, the sycamores especially, commence to turn a rusty brown by the end of July, and are usually falling fast in August. This is no doubt due to the gases from the chemical works across the Mersey. What, if any, effect this gas-laden atmosphere has on bees and honey I have yet to learn.

I think the botanical name of the Tea-tree my kinsman inquires for is *Lycium*, of the natural order *Solanaceæ*, so that it is related to the potato. *Lycium afrum*, crimson and violet, is a native of South Africa; *L. Sinense* (syn. *L. Barbarum*), the common boxthorn, or Duke of Argyll's Tea-tree, purple and yellow, scarlet berries, is a native of China. There is a climbing variety known as *L. Europæum*. If this is the shrub he has, it is spiny, with, as he says, willow-shaped leaves, or more nearly like the woody nightshade.

The extract *re Nosema* disease is interesting. According to these, hives and combs can be used from infected stocks that have died, without disinfection. I would hardly like to risk it. I also think there must be some other means of infection, if this is the particular organism that is responsible for "Isle of Wight" disease. The two mentioned would alone

be insufficient to cause the widespread disaster this disease has caused in this country.

I am happy to note that the Board of Agriculture is making a move in the right direction in considering the desirability of legislation *re* bee diseases. If they had taken those steps a dozen years ago (when bee-keepers who were really keen on the subject were, through the B.B.K.A., urging them to do so, but without success), bee-keeping would have been flourishing still, and "Isle of Wight" disease and others would have been no more than memories. Many—indeed, most—diseases can be stamped out quickly in their early stages. I remember about 15 years ago being called in to inspect a hive of bees a neighbour had purchased early in the spring, and, finding it slightly infected with foul brood. Prompt measures completely cured it, and the parish was saved from infection and enjoyed immunity for several years. If this hive had been left undetected, all others might have been soon rotten with it, as I have seen in whole districts. I was fortunate in my neighbours. They were always willing for me to examine their hives—indeed, usually sent for me if they were in any difficulty, the result being that when the county expert was around on his tours he expressed his pleasure at being invariably able to report a clean bill of health, a condition that obtained in very few places he visited. I am not mentioning this in a self-laudatory mood, but just to show how one bee-keeper with the necessary knowledge and willingness may assist to keep away many diseases that can work great mischief unchecked, and is blessed, as I was then, with agreeable neighbours. Legislation was not necessary in this case, but when I was doing some touring for the county B.K.A. at that same time I often came upon instances when it was; where no amount of persuasion would induce the bee-keeper (?) to destroy a badly infected stock. I have in mind a larger village than my own, but only seven miles distant, which became a perfect hotbed of infection because a couple of people who owned bees refused to have a "blooming" (this was *not* the adjective) expert messing round their hives.—D. J. Hemming, Runcorn.

Candy.

One cup sugar, one tablespoonful honey, butter size of walnut, sweet cream enough to dissolve the mixture. Does not need much cooling. When taken from the fire beat with a spoon until smooth.—*The Western Honey Bee.*

The Metal Foundation.

As reported in our last issue, a demonstration of the *Metal Foundation* evolved and tested at the Research Apiary of the *Apis Club*, by its organising secretary, Dr. A. Z. Abushâdy, editor, *The Bee World*, was given in the museum and library room of the B.B.K.A. on Friday, November 7, between 2 and 4 p.m.

Although Dr. Abushâdy is a member of the B.B.K.A., the facilities accorded to him for the exposition of his experimental work are not by any means limited to members of the Association, whose traditions have always been the service of modern apiculture, irrespective of personalities. Members and non-members may equally depend on the sympathetic attitude towards progressive research of the oldest bee-organisation in the country, which has always taken a leading part in every movement aiming at the true service of British bee culture.

In spite of the very short notice given of the conversazione and demonstration, there was a good gathering of bee-keepers, including some leading men, who took sufficient interest in it to travel from the country for many miles.

The specimens presented were carefully scrutinised, and many searching questions were asked which were fully answered. The meeting exhibited a spirit of open-mindedness and keen interest in the rapid development of the question of hive equipment on scientific lines.

Space prevents us from giving a detailed report of the proceedings, but owing to the great importance of the subject we have no hesitation as to giving, for the benefit of our readers, the following summary:—

Briefly stated, Dr. Abushâdy has demonstrated his success in proving, contrary to current teachings, that:

(1) *Wax is not necessary as a bait* for bees in inducing them to build wax comb on artificial foundation.

(2) The sense of touch of bees is far more acute than is generally appreciated.

(3) Bees will build wax in what amounts to winter temperature if forced to do so, and should their numbers be sufficient for thick clustering.

(4) It is possible to adopt such a practical compromise between the metal comb and the wax comb as the naked metal foundation.

(5) The winter cluster of bees on combs, placed at right angles to the entrance, is generally central, as revealed by the margin line of wax building on the metal foundation, and, as confirmed by his observations (in the presence of witnesses) of bees wintering

in his observatory hive, which was shown, apart from the rapid examination of several other colonies at temperatures below 40 deg. F.

(6) Bees are liberal in the utilisation of their wax scales, and, Dr. Abushâdy claims, they will not go to the trouble of "drawing out" the ridges of wax foundation, as is generally believed, but that they will crudely embrace these ridges with their secreted wax in starting to build up their comb on the artificial ridges of the foundation. He promised to present additional specimens in proof of this important point at a second demonstration to be held shortly.

The following deductions, he pointed out, clearly present themselves:—

(1) It is sheer extravagence to utilise wax for foundation when durable metal foundation (preferably a non-poisonous aluminium alloy) will do equally well. And it is perfectly clear that if metal foundation has proved a striking success under the most unfavourable conditions, it should prove at lease equally successful under average seasonable conditions. Hitherto, wax foundation alone has been utilised, and even when a metal core (as distinct from foundation) has been advocated in addition for the purpose of stability it has been coated with beeswax. But *pure metal foundation* is a new notion based entirely on experimental work, which now destroys the "wax bait" theory, which is supported even by the manufacturers of the McDonald aluminium comb, since they spray it with molten wax before placing it on the market.

(2) If bees can so sensitively feel *rounded* borders of the embossed cell bases, and generally adhere to them despite rapid feeding, there is no logic in being too particular about creating sharp margins for these bases. The obvious lesson to be learnt from this is that *it is more advantageous to use a comparatively thick sheet of metal* (for the sake of durability) *and to produce round-margined cell bases, rather than have a thin sheet* (which may be buckled or easily damaged) *for the sake of securing sharp-margined ones.* Dr. Abushâdy is of opinion that bees will most likely respond also to *grooved foundation* just as they respond to *ridged foundation*, their sense of touch being exceptionally acute.

(3) Metal will not in any way prejudice wax building, and in fact this experimental work clearly opens the field for the introduction of other forms of foundation, *e.g.*, *wooden foundation*, "*bone*" *foundation*, etc., although these will not compare with aluminium, for instance, which has the following advantages amongst others:—

Special.

(a) *Indefinite* durability with reasonable care;
(b) Sterilisation adaptability (by boiling);
(c) Cleanliness;

Joint.

(d) Economy of labour in fitting, etc., apart from economy of durability;
(e) The safety of bees in movement;
(f) The ability of removing drone cells and queen cells without destroying the foundation.

(4) Those who believe in the beneficial effect of stimulating wax secretion to the utmost degree (a belief which Dr. Abushâdy does *not* share, especially as he contends that there are ample opportunities for wax secretion in an average hive in the hands of a modern apiarist, whether the hive is supered or otherwise, and even when metal combs are used) will find the metal foundation a true friend, who will permit them to force their bees to do as much wax secretion as they desire without extra cost in equipment. The bee-keeper will at least be able to regulate more effectively the building of worker cells, and can thus secure a comb composed entirely of such cells.

(5) From a practical standpoint there is hardly any dissipation of heat when metal foundation forms the basis of a comb used for wintering. We have seen excellent wax comb built on this very foundation in "winter weather," and it is logical to observe that the bees will be clustering on *wax*, which is a good *non*-conductor of heat, and that any heat dissipation towards the bases of the cells will be merely transmitted to the other side of the comb, where the bees are clustering. At its worst, such an insignificant dissipation of heat will merely help to equalise the temperature of the hive. As he disproves the "side-clustering" of bees except in cases of hives with non-protected entrances, the side dissipation of heat (should it ever occur in any appreciable degree) is not to be deplored.

(6) As he shows that there is no gain whatever (whether economical, practical or scientific) in the maintenance of wax foundation, except for sections, it is clear that metal foundation has a rightful place of universal adoption by those who prefer a wax comb to a metal comb.

Several illuminating questions were advanced relative to the metal comb, and were satisfactorily answered. Space prevents us giving additional notes, but we

shall report on these questions in recording the proceedings of the second conversazione and demonstration which will be devoted to the subject of the metal comb.

Readers who are interested in the further study of this subject are recommended to refer to the September number of *The Bee World*. We have been presented with a limited number of copies for sale, entirely for the benefit of the *B.B.K.A. Educational Fund*. Each copy will be disposed of at one shilling, which is actually the cost of printing, and nearly three times below the cost of production. The number is a book in itself, and is liberally illustrated and artistically printed. It amounts to 160 pages of the size and type of the "Guide Book."

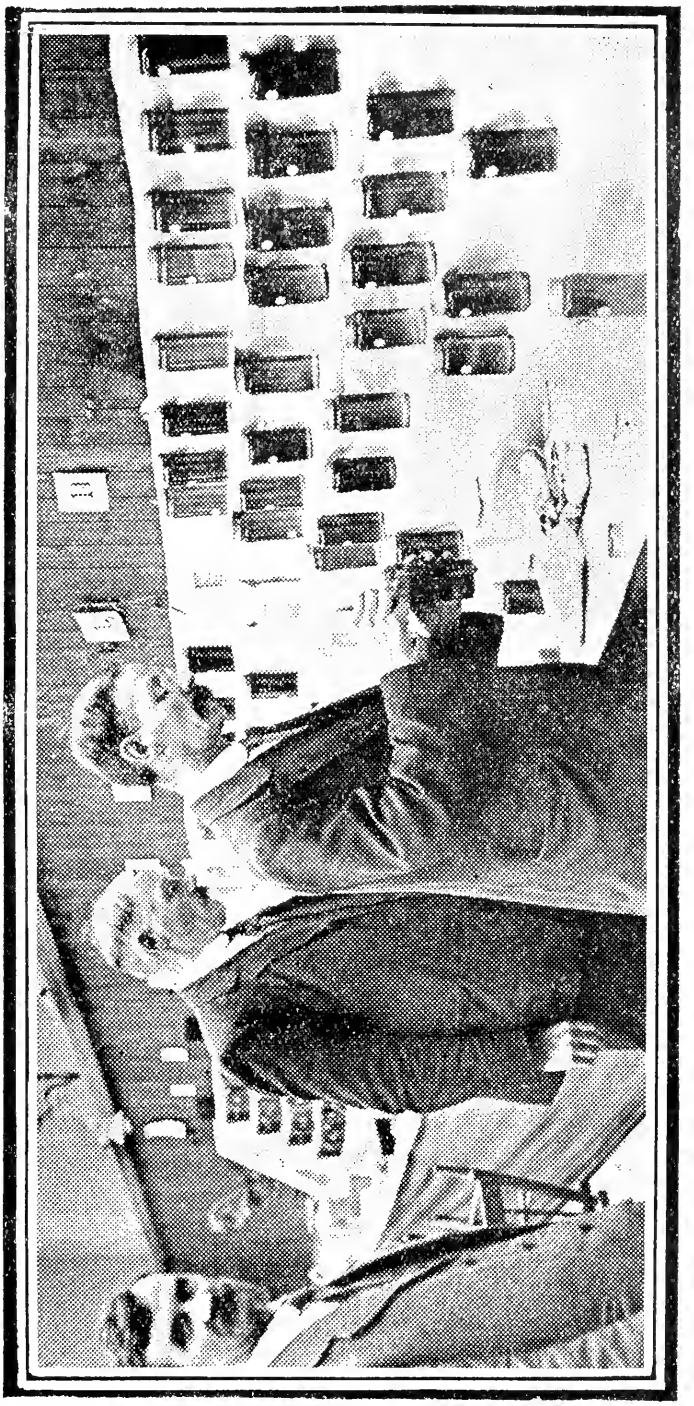
In our repeated reviews of *The Bee World*, we have adhered to the policy of the JOURNAL in encouraging every educational scheme helpful to the cause of bee-keeping, whether we have any part in it or otherwise. For similar reasons, we have always maintained an open platform, and never consigned to the W.P.B. any important correspondence which was not of a personal character, and unless creative of strife instead of co-operation. The editor of *The Bee World* is producing the magazine for international education, without wastefulness in the shape of overlapping the services of the home bee Press. The periodical has already attained a respectable and a growing circulation, but at a great financial sacrifice in the absence of adequate advertising support and lacking liberal contribution to its educational fund. The magazine merely forms a part of an educational scheme based on research work and international scholarly relations, as represented in the aims of the Apis Club. Dr. Ahushâdy, in spite of frequent relapses of ill-health, has placed on his shoulders an exceptionally heavy burden by launching such an ambitious and well-considered scheme, the fruits of which, if successful, will go to the British bee community under the democratic control of its bee associations, and should it fail (through the apathy of the rank and file of British, and also of international bee-keepers, he is contented with blaming himself. Already hundreds of pounds have been spent by the Apis Club through his personal sacrifice and passionate interest in bee-keeping, and through the enthusiastic support of a few of his loyal friends, but he can hardly be grateful to the craft for the comparative indifference exhibited. We have borne all these points in mind when we whole-heartedly supported such an original scheme, aiming at the creation of a powerful non-official research body with educational aims, of international character, which will render a variety of services to *every* section of British bee-keepers, and also to bee-keepers abroad, who sufficiently appreciate the value of creating scholarly and commercial ties with this country.

Dr. Abushâdy is a staunch believer in co-operation and in the morality of self-sacrifice. Every invention of his has been given free to bee-keepers, and nothing has been protected except when the cost of production has made this imperative. The metal foundation, which will be produced for the 1920 season during this winter, will need to be sold in thousands before even the cost of the special machinery needed for its production will be recovered. He relies for its development on the support of the trade, and seeing that he does not readily support any idea without the most careful scrutiny, he is placing his reputation at stake by strongly recommending the metal foundation and metal comb. In testing the former under exceptionally unfavourable conditions, and with control experiments, his financial loss in bees amounts to no less than £25, and we share with him the hope that he will not be rewarded merely by the ridicule of those who are natural enemies of every new idea in bee-keeping—namely, the mere gossipers and "keepers" of bees.

Staffordshire Bee-keepers' Association.

The above held their seventh annual exhibition of honey, etc., on Saturday, October 25, in the County Technical Building, Stafford, in conjunction with an exhibit of fruit, etc., from the county experimental plots.

In spite of the adverse season, 94 exhibits of bee produce were staged, all of excellent quality. Mr. J. Herrod-Hempsall, F.E.S., officiated as judge, and his awards seemed to give satisfaction to the whole of the exhibitors. The competition was keen throughout, and the judge confessed that he had the greatest difficulty in awarding the prizes, owing to the uniform merit shown in the various classes. The run honey was very good, especially in the novice classes; some of the honey had the unmistakable tinge of lime, but the bulk was from clover or a clover blend. The judge's report to the committee, as follows, was very encouraging:—"I congratulate the association on the general excellence of the exhibits, as well as on the number. It is, so far, the best show I have seen this year. At most shows there are, as a rule, one or two what may be described perhaps as 'dud' exhibits—that is, they are so utterly hopeless that



Mr. J. Herrod-Hempsall, F.E.S. (on the right), judging the Honey exhibits at Stafford. Mr. J. Price, C.C., Bee Expert, is seen behind the judge, with Mr. W. Griffiths, Hon. Sec., on the left.
(Photo and block by the *Staffordshire Weekly Sentinel*, given by their kind permission.)

the only purpose they serve on the show bench is as an example of how not to do it. In this show there is not an exhibit without some merit. In some classes the competition has been exceedingly keen, and the task of making the awards very difficult. In these circumstances, it is not easy to point out any particular class or exhibit for special mention. If any do stand out it is the classes for wax and

sections. The wax is an especially strong class, all the exhibits being worthy of a place at any show in the country. The exhibits of sections, though not large, are in all classes of excellent quality, although the past season has been very unfavourable for their production. The class for cakes is also good. This is a class that I always feel some diffidence in judging. If I may make a suggestion to exhibitors, it is that, when making cakes for competition, they should, if possible, avoid the use of fruit and spices. It has been a real pleasure to adjudicate at such a show, and I only trust the awards will give satisfaction."

Mr. Price, the County Council expert, had a very interesting educational exhibit, including both ancient and modern appliances, such as a "Neighbour's improved cottager hive" and a "Little Wonder" honey extractor, and various types of metal ends and frames.

In the 1-lb. gift glass there were 12 exhibits, which after the show were sent to the Staffordshire General Infirmary. The prizes in this class were appliances given by Messrs. Meadows and Thorne (Stafford), Ltd.

At the conclusion of the opening ceremony, the Chairman (Prebendary Dunkley) presented the following certificates awarded to members of the county association by the British Bee-keepers' Association:—First class, Mrs. Saint and Mr. Jackson; intermediate, Mr. W. Jackson; preliminary, Messrs. T. Cowlishaw, E. J. Smith, B. T. Abell, and G. H. Hope. Mrs. Saint is to be complimented on her success, she being the first lady bee-keeper in Staffordshire to gain a first-class certificate.

The silver medal of the association has been awarded to Mr. J. Swanwick, of Newcastle Road, Stone, for the highest number of points, and the bronze medal to Mr. George Evans, of Bromstead, Newport, Salop.

The following is a list of the awards:—

OPEN CLASSES.

Sections.—1, G. Evans, Bromstead; 2, Mrs. A. Dobson, Tean.

Four jars of light honey.—1, E. Jacques, Walsall Road, Lichfield; 2, H. J. Bryan, Stafford Road, Cannock; 3, Thos. Mottram, Waterhouses; v.h.c., T. Cowlishaw, Cannock, and C. F. Brookes, Alrewas.

Four jars, other than light.—1, E. Jacques; 2, T. Cowlishaw; 3, B. T. Abell, Stallington Apiary.

Beeswax.—1, G. Evans; 2, Miss Mander, Compton; 3, G. H. Mytton, Lyncroft, Lichfield; v.h.c., E. Jacques.

Shallow frame.—2, Miss K. Capewell, Post Office, Brocton.

Four jars of granulated.—1, T. Mottram; 2, C. F. Brookes; 3, G. H. Mytton; v.h.c., H. J. Bryan, 161, Stafford Road, Cannock.

Cake, sweetened with honey.—1, J. Swanwick, 66, Newcastle Road, Stone; 2, Mrs. Woolaston, Silkmore; 3, T. Cowlishaw; v.h.c., Miss Mander.

Practical exhibit.—1, E. Jacques; , T. Lawton, Tipping Street, Lawton.

Scientific exhibit.—1, H. Grocott, 89, Sparrow Terrace, Porthill.

COTTAGERS' CLASSES.

Sections.—1, G. Evans.

Light honey.—1, J. Swanwick, Stone; 2, B. Warrenden, Blymhill Lawn, Shifnal; 3, Miss K. Capewell.

Other than light.—1, A. Pegg, Newhall Street, Cannock; 2, Miss K. Capewell; 3, J. Swanwick.

Beeswax.—1, G. Evans; 2, J. Swanwick; 3, B. Warrenden; v.h.c., Miss Capewell.

NOVICES.

Sections.—1, Mrs. A. Dobson, Tean.

Light honey.—1, B. Warrenden; 2, Mrs. Minshall, Wilbrighton Hall, Newport; 3, C. F. Brookes; v.h.c., T. Mottram.

Other than light.—1, J. Beardmore, Marchington; 2, Miss K. Capewell; 3, A. Pegg; v.h.c., T. H. Lawton, Tipping Street, Stafford.

Beeswax.—1, Miss Mander; 2, J. Swanwick; 3, C. F. Brookes; v.h.c., B. Warrenden.

Extra gift section or jars.—1, C. F. Brookes; 2, W. Griffiths; 3, T. Cowlishaw; v.h.c., A. Pegg.

Label competition, open to County Art School students.—Silver medal, P. R. Sheppard, Uttoxeter; bronze medal, J. Kenderdine, Stafford.—*Communicated.*

Twickenham and District Bee-keepers' Association.

Twickenham and Thames Valley Bee-keepers' Association have arranged for a series of six lantern lectures on bee-keeping to be delivered by Mr. W. Herrod-Hempsall, F.E.S., on the following dates:—

Wednesday, November 19, at 8 p.m., at St. Peter's Hall, Staines.

Friday, December 19, at 8 p.m., at St. Stephen's Parish Rooms, Hounslow.

Friday, January 16, at 8 p.m., at St. Stephen's Parish Rooms, Hounslow.

Friday, February 20, at 8 p.m., at the Library Lecture Room, Twickenham.

Friday, March 19, at 8 p.m., at the Library Lecture Room, Twickenham.

Friday, April 16, at 8 p.m., at the Library Lecture Room, Twickenham.

It is hoped that the lectures will ultimately be the means of greatly stimulating the culture of bees in the Thames Valley. The question of the nation's food

supply is of great importance at the present time. Bee-keepers must do their share, and make every effort to produce greater quantities of honey, and provide the bees which are so necessary for the fertilisation of the fruit and other blossoms.—M. BYATT (Miss), Hawthorne, Hanworth, Hon. Sec.

Glasgow and District Bee-keepers' Association.

The following lectures have been arranged to be given in the Christian Institute, Bothwell Street, Glasgow, commencing each evening at 7.30 p.m.:—

Thursday, November 20.—Rev. John Beveridge, B.D., Gartmore: "Bee-keeping Experiences in Town and Country."

Tuesday, December 16. — Mr. Alec Steven, L.R.A.M., Glasgow: "The Bee and the Flower."

It is to be hoped that there will be a large attendance of members and friends.

The dates of lectures to be given by Mr. Avery and Mr. Anderson have not yet been fixed. Due notice will be given. —PETER BEBBINGTON, 65, Robertson Street, Glasgow, Hon. Sec.

Questions, etc., for Bee-keepers for Self-Examination.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

385. What are "condemned" bees?

386. What precautions are necessary in extracting honey from combs in frames?

387. Describe several ways of introducing queens.

388. Explain minutely how a super-clearer should be put under a rack of frames or sections.

389. Describe exactly a cell in worker comb.

390. State particularly what will happen in a colony when an Italian queen is exchanged for one of another kind.

391. With what object, and when, is stimulative feeding resorted to?

392. What excise licences are required by a person who makes mead and vinegar for sale?

393. Elucidate the advice "clip the queen's wing."

394. Differentiate between a locality suitable for extracted honey and one suitable for section honey.

395. In what parts of a bee may evidence of the presence of *Nosema apis* be found, and what are the precise indications of such presence?

396. Make notes for a 15-minute lecture on "The Usefulness of the Bee as a Pollenising Agent."

Remarks on Frames.

[10035] In reply to Mr. Charlton's letter (10033), it may not be assumed as correct "that the ordinary bee-keeper who has only a few hives will do best by using standard frames as brood frames, for if he changed over to larger ones he would probably be unable to get early sections, and have, perhaps, reduced surplus later on." Mr. Charlton is quite right in saying that it is only after a good proportion of honey is stored in the brood chamber that they go above, but here is the very bedrock of successful honey production, and that is, at all times, to have the proportion of brood and food correctly balanced, and this applies equally to the "bee-keeper with few hives," and the commercial honey producer. I would ask Mr. Charlton which is the more satisfactory, a rack of early sections, or three racks later, plus twice as many bees to work on the main flow.

The statement is made that a poor queen would do no better on large combs, but successful honey production is not based on the toleration of poor queens, and the cost of replacing such is repaid so many times over that the retention of these queens, and the use of them as an argument for small frames is a matter for surprise.

As regards sagging of top bars, if we could sweep away the flimsy $\frac{3}{8}$ bar, using $\frac{7}{8}$ square, as in the 16 by 10, there would be no sagging, and incidentally, less use for the queen (and honey) excluder.

The fact that deeper frames will not twist is no fallacy. Has Mr. Charlton ever lifted up a box of standard frames and looked to see if the bottom bars are parallel? This is a problem in applied mechanics, that given a slight twist, the longer the side bars, the greater the twist.

I would point out that the outside dimensions of the 16 by 10 body box are not increased by 2 inches, as the top bars are only $17\frac{1}{2}$ inches, and this extra $\frac{1}{2}$ inch is no deterrent to its use in any outer case of a W.B.C. hive.—G. BARRATT, Sheffield.

[10036] I am afraid some of your correspondents do not realise that we are working under artificial conditions—that the bees the Standard frame was adopted for are missing. It is to be hoped that out of the mixture of bees at present available, we may be able to produce something approaching our old English bee at

its best. Our old frame, though an annual subject, and, as a nurseryman would go on to say, very hardy and worth cultivating, has served us well, and the majority of present-day bee-keepers know very little of the trouble taken over its adoption from 30 to 40 years ago. I am not in favour of a longer frame, but from long experience of bee-keeping in hives, and from observing those under natural conditions, i.e., in trees and the roofs of buildings, I am in favour of an addition of 2½ or 3 inches to the depth of our present frame. It is natural for bees to cluster below their food, and work upwards. Any assistance that enables them to do that and nothing more is, I find, helpful. When I have had an unusually prolific queen I have added a set of shallow frames of comb for her use, and have met the need very well, but additional depth to the standard frame would be preferable.

I used at one time to devote a good deal of time to removing bees from the roofs of churches and other buildings, and in that way had many opportunities to note their natural inclinations.—W. Loveday, Chiltern View Road, Uxbridge.

[We are very pleased to hear once more from Mr. Loveday. His name was well known to our readers some years ago, when he lived at Hatfield Heath, and was a regular correspondent. Mr. Loveday's opinion is worth having. He is a practical and able bee-keeper, who used to depend for his living to a great extent on his bees, and had bred a very useful strain which was becoming well known among bee-keepers. His experiences with foul brood (which destroyed his apiary) and the need for legislation would be useful and instructive at the present time, if he will give them for the benefit of the craft.—Eds.]

Weather Report.

Westbourne, October, 1919.

Rainfall, ·71 in.	Mean maximum, 54·3.
Heaviest fall, ·26 in. on 24th.	Mean minimum, 37·5.
Rain fell on 8 days.	Mean temperature, 45·9.
Below average, 3·41in.	Below average, 3·5
Maximum temperature, 66 on 6th.	Maximum barometer, 30·611 on 19th.
Minimum temperature, 27 on 17th.	Minimum barometer. 29·497 on 13th.
Minimum on grass, 23 on 17th.	L. B. Birkett.
Frosty nights, 8.	

Bee Shows to Come.

November 25 and 26, Barnstaple Great Open Show.—Poultry, Pigeons, Cage Birds, and Horticultural Produce, including Honey (three classes).—Schedules post free from the Hon. Secretary, Wm. E. Hart, Devon Seed Stores, Barnstaple.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

YOUNG fertile Hybrid Queen to spare.—PRYOR, Breachwood Green, Welwyn. w.20

APPLES FROM MY OWN ORCHARDS.—Many varieties, eating and cooking, from 11s .6d. to 13s. 6d. bushel, or 37s. to 41s. cwt.; also Cob Nuts, 1s. 3d. lb.; fine Walnuts, 11d. lb.; best Conference Pears, 16s. bushel; all carriage paid per passenger train England and Wales in returnable boxes. State wants, or send for full list.—NELSON, West Farleigh, Maidstone. w.21

FOR IMMEDIATE DISPOSAL, 30 March-April, 1918, White Wyandotte Pullets, 11s. 6d. each; extra special, 14s. each; beautiful birds, through moult; room wanted for young stock; carriage paid on six; four days' approval.—NELSON, West Farleigh, Maidstone. w.22

HONEY and Ferrets for Sale. 28-lb. tin best English Honey for 50s., carriage paid; tin returned. Strong, healthy Ferrets, 15s. each, been worked, carriage paid.—J. WHITE, Fairstead Hall, near Witham, Essex. w.23

FOR SALE, ½ cwt. Honey, granulated, 1s. 7d. per lb.—L. W. MATTHEWS, 25, Cray Road, Crockenhill, Kent. w.24

PURE light Cambridgeshire Honey, 14-lb. tins, 22s. 6d.; 28-lb. tins, 42s.; tins free; sample 4d.—J. YOUNGER, 6, Maid's Causeway, Cambridge. w.25

WORKING PARTNER.—Advertiser, owner several apiaries, wishes meet English gentleman with energy and means. Object: Production honey abroad, importation into England. Advantages: Lower cost production due to lower taxes, lower wages, lower transport charges, foreign Government assistance. State in first letter if prepared to invest not less than £600, war service, and experience with bees, if any.—Box 52, B.B.J. Office, 23, Bedford Street, W.C.2. w.26

WANTED, Sladen's Twin Nucleus Hive, with side-wall feeder and folding frames.—HEWISON, Marr, Doncaster. w.27

HONEY.—1 lb. cartons, 14s. per dozen, f.o.b.; sample, post free, 1s. 8d.—HORSLEY, "Merridale," Douglas, Isle of Man. w.28

FOR SALE, 2½ cwt. Light Cambridgeshire Honey, £10 cwt.; tins free.—HURRY, Brookfield Road, Sawston, Cambs. w.2

PURE ENGLISH HONEY in bulk.—Particulars, BUTLER, West Road, Histon, Cambs. w.10

9 CWTS. Light Honey, 28-lb. tins, £9 10s. per cwt., or nearest offer; sample 6d.—J. BARNES, Burwell, Cambridgeshire. w.9

WANTED, Stocks of healthy Bees; will exchange 1918 pullets, 1919 R.I.R. and Leghorn cockerels.—NEAVE, Fullview, Epsom Downs v.41

WILL all those bee-keepers possessing 25 stocks of bees and upwards kindly send particulars to SECRETARY, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.? v.42

Legislation.

As promised last week, we give the text of the last Bee Disease Bill that was placed before Parliament.

BEE DISEASE

A Bill to provide for the prevention of the introduction and spread of Pests and Diseases affecting Bees.

Be it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

Prohibition of Importation of Bees, etc.

1. The Board of Agriculture and Fisheries (hereinafter referred to as the "Board") may make such orders as they think expedient for preventing the introduction into England and Wales of any pest or disease affecting bees, and for that purpose any such order may prohibit and regulate the introduction or admission by post of bees, and of any articles or appliances used in connection with bee-keeping, and any other thing whereby any such pest or disease may be introduced, and any such order may direct or authorise the seizure, detention, destruction, or disposal of any bees or things introduced or admitted in contravention of any such order.

Orders for Preventing Spread of Bee Disease.

2. The Board may make such orders as they think expedient for preventing the spread in England and Wales of any pest or disease affecting bees, and any such order may direct or authorise the destruction by the local authority of any colony of bees so affected, and any receptacle (other than a movable comb hive) in which there are or have been so affected bees, and the contents of any receptacle which is being used or has recently been used for bees so affected, and may authorise the destruction by the local authority, subject to payment by way of compensation of the value of the thing destroyed, of bees or any other thing which, in the opinion of the local authority, may spread a pest or disease affecting bees, or is liable to become infected by any such pest or disease, such value to be determined in manner prescribed by the order.

Enforcement of Orders.

3. (1) An order under this Act may impose fines recoverable on summary conviction for offences against the order, not exceeding *ten pounds* for any one offence.

(2) An order under this Act may direct or authorise the local authority or any committee thereof to which the powers of the authority under this Act may have been delegated, to carry into effect, and enforce the order within the district of the local authority, and if a local authority or committee, when so required by any such order, fails to carry into effect the order or any provisions thereof, the Board shall have all such powers of executing and enforcing the order, or procuring the execution and enforcement thereof, and of recovering expenses incurred, as are conferred on the Board by Section 34 of the Diseases of Animals Act, 1894, with respect to an order made under that Act.

(3) In any proceedings under this Act, no proof shall be required of the appointment or handwriting of an inspector or other officer of the Board or of the clerk or an inspector or other officer of a local authority.

Local Authorities.

4. (1) The local authorities under the Diseases of Animals Act, 1894, shall be the local authorities for the purposes of this Act, and any expenses incurred by a local authority under this Act shall be defrayed as expenses incurred under that Act.

(2) Every local authority shall appoint so many inspectors and other officers as the local authority think necessary for the execution and enforcement of orders under this Act, and shall assign to those inspectors and officers such duties and salaries or allowances, and may delegate to any of them such authorities and discretion as to the local authority may seem fit, and may at any time revoke any appointment so made.

(3) Every local authority and their inspectors and officers shall send and give to the Board such notices, reports, returns, and information as the Board require.

Powers of Inspectors, etc.

5. (1) An inspector of the Board or of the local authority may at any time, accompanied if he thinks fit by an expert adviser, enter any building or place wherein he has reasonable ground for supposing that there are or have recently been bees affected by any pest or disease, or that any order under this Act has not been or is not being complied with, and to examine any bees on such premises and anything thereon used for or in connection with bees:

Provided that the powers of an inspector of a local authority shall not extend outside the district of the local authority.

(2) If any person without lawful authority or excuse (proof whereof shall

lie on him) refuses to any inspector or other officer acting in the executon of this Act or of an order under this Act admission to any building or place which the inspector or officer is entitled to enter or examine, or obstructs or impedes him in so entering or examining, or otherwise in any respect obstructs or impedes an inspector or other officer in the execution of his duty, or assists in any such obstructing or impeding, he shall be guilty of an offence against this Act, and shall be liable on summary conviction to a fine not exceeding *ten pounds*.

Application to Scotland.

6. This Act shall apply to Scotland in like manner as it applies to England and Wales, subject, however, to this modification, namely, that the powers conferred on the Board of Agriculture and Fisheries shall in Scotland be exerciseable by the Board of Agriculture for Scotland, and that for the purposes of sub-section (2) of section 3 of this Act the Board of Agriculture for Scotland shall have the like powers as are conferred on the Board of Agriculture and Fisheries by section 34 of the Diseases of Animals Act, 1894, with respect to orders under that Act.

Short Title.

7. This Act may be cited as the Bee Disease Act, 1912.

British Bee-Keepers' Association Conversazione.

(*Continued from page* 490.)

The next paper on "The Best Method of Increasing Stocks of Bees" should have been given by Mr. W. Herrod-Hempsall, but he was unable to be present, as he was out of the country.

Mr. Reid introduced Mr. Hill, of Derby, who had very kindly undertaken at a moment's notice to open the discussion.

Mr. Hill said he had not come to shine as a leading light, but he had come to learn something. He had no idea he would have to teach, and it must not be taken that he was going to teach. The position in Derbyshire was the same as in other counties, and they had been confronted by the same problems. Owing to "Isle of Wight" disease there were very few bee-keepers or bees left. Derbyshire could not see their way to take on the Government bee re-stocking scheme. He offered to take charge of a re-stocking apiary on condition that he was allowed to work it his own way, without any Government interference, and his offer was accepted. He had lost all his bees, but five stocks of Italian, and these he proposed to breed from. "In April," said Mr. Hill, "we had some Dutch skeps, and queer-looking things they were, very tall, no hole at the top, and with two entrances half-way up. First I cut a hole in the top and made an entrance at the proper place—the bottom. Whatever faults Dutch bees have, they are just the thing for breeding. The stocks were brought on and artificial swarms were made from them, these soon worked up to cover 10 to 12 combs, and nuclei were then made from them. These consisted of two combs of brood, one of food and one frame of empty comb. My greatest difficulty was in getting the Dutch bees to accept the Italian queens. The nuclei were always purposely made when bees were flying freely. The field bees then returned to the old stand. In two days time all queen cells were removed, and one containing an Italian larva was given. Most of the queens were obtained by grafting day-old larvæ, and we got some very good queens in that way, which have all done well. The nuclei and young queens were sent long distances and they worked up well, one had increased so that its owner was able to make it into two. From the six skeps, and the movable comb hives worked together, 42 nuclei have been sold. The scheme has been good for Derbyshire, and this year the balance has been on the right side. The Dutch bees were A1 for breeding. Some people objected to the hybrids, as they were inclined to sting; for my part I like bees that will sting a bit, as they are usually good workers, and defended their homes well, so I do not mind a bit of pepper."

Mr. Prior said there was not a better way of introducing queens than by using a frame of brood that was just emerging.

Mr. Hill said he had great difficulty in getting the Dutch bees to take to the "yellow ladies," but did better by mixing bees and brood. He tried allowing Dutch bees to rear a queen from an Italian egg, but they killed the young queen as soon as she emerged.

Mr. Bryden had found no difficulty in introducing Italian queens to Dutch bees. He had done it 32 times, and only had one failure. He had even successfully introduced a yellow queen to black bees having a laying worker. He was going to liberate the queen but she flew. In a few minutes she returned, was put back in the cage with more candy, and the bees allowed to liberate her by eating it out, when she was accepted.

Mr. Kettle wished they had some clever bee-keepers like Mr. Bryden in Dorset. They had the same difficulty in introducing Italian queens. Though Mr. Butson, who had charge of their re-stocking

apiary, had a life experience of bees, one queen was liberated after being confined three days, but the bees were after her at once, she got away from them, came out of the entrance, and flew. On returning she was again attacked, but a Dutch queen was accepted.

Mr. Toms asked if Mr. Hills had found any difficulty in getting Dutch bees to work on foundation, as he could not get them to do so.

Mr. Hill said they had no difficulty with that. The first foundation they had was hard and brittle, and was not taken to so well; the next lot was newer and soft, and the bees readily took to it.

Mr. Reid said the quality of foundation varied. He knew one firm who used only pure bees' wax in making foundation, but had a lot of it returned, as the bees refused to work on it. This was made from African wax. He got some, and also foundation made from other wax. This last was accepted, but the bees refused the African wax. Possibly the reason was that the wax was from a different variety of bee, and the scent was objectionable to our bees. Dutch, Italian and natives all showed the same repugnance. When African wax was refined, and the scent taken away, the bees took to it better.

In reply to other questions, Mr. Hill gave details of some of his experiences, and said that only young bees took a queen readily. He thought much depended on the attitude and action of the queen. It was more difficult to introduce a virgin than a fertile queen. He had tried keeping the bees queenless for a couple of days, to giving the queen immediately. He had taken the queen away and run in a baby virgin. The bees took no notice of her. She took her fill of honey, and the bees still took no notice, but she was thrown out next day.

Mr. Reid proposed a hearty vote of thanks to Mr. Hill. He had stepped into the breach at a moments' notice, and had given them an excellent account of his experiences, and he was sure they were all very much obliged to him. After this had been most cordially given, Mr. Hill, in returning thanks, said how very sorry they all were that Mr. Cowan was not among them, and proposed that those present send to him their very best wishes, and say how pleased they would have been if he could have been present. This was very heartily agreed to, and after a vote of thanks to Mr. Eales for taking the chair during the first part of the meeting, and to Mr. Reid for presiding during the last two papers in his usual able manner had been passed, on the proposition of Mr. Bryden, a most successful meeting terminated.

Jottings from Huntingdonshire

"Morning, sir, I've called to ask if you'll kindly like, sell us a few bees; I've the rheumatiz that bad I can hardly walk—can't hobble along at all without these yer two sticks, and my ole man had to drive some beasts to market the other day, sir, and called in a tavern for a mouthful o' bread and cheese and a sup o' beer, an' he picked up a paper, sir, and jest read a little. He ain't much of a scholard, ain't John, sir, they didn't reckon so much on eddication when we was young, but he can read a bit, sir, and he read summat about bee stings being good for rheumatiz. Wen he comed 'ome, sir, he says, 'Sal, I 'ave bought ee a skep; I've been a-reading as how bee stings do cure rheumatiz, and I thought maybe the passon 'ould sell ee a few bees, about a pint like, and if ee looked ater 'em a lot, and got pricked pretty often, you might get cured o' them okkerd legs o' thine!' So I've cum to arsk ee, sir, if you'd be so good as to oblige. I be that bad o' nights, sir, I 'as to oller out, an' John do get that vexed when ee's wakened in 'is sleep, and I doan't like to upset 'im, sir, for ee's bin enjoying bad 'ealth for some time since, altho' this last morning or two ee 'ave complained o' feeling better."

This pathetic appeal was such to move any bee-keeper to oblige. But what was I to do but say, "My dear Mrs. ——, I'm truly sorry for you, and if you had called a few months back I would gladly have given you a small swarm for your skep, but to disturb bees in November isn't wise, you know." "Ain't it now, o' dear o', and I was in 'opes I should be able to get a few stings afore John comes 'ome, and maybe able to get rid of at least one o' these ere sticks I as to 'obble along with."

The old woman's faith was great if she expected formic acid to work a cure in so quick a time, and I only wished I had the power to heal her of her infirmities, and was just about to explain matters more fully when she broke in—— "Dunnee think I be afraid o' stings, sir, I'll stan' anything which'll cure I o' these awful pains."

"Well, Mrs. ——," I said, "I cannot let you have bees at this season of the year, but if you're anxious to get a few stings I can oblige you if you'll just come this way." I led her to my strongest stock of Ligurians. "Now then," I said, "When I take off this roof I want you to move back the coverings quietly and then take one corner of the calico quilt and lift it up not more than two inches." I took off the roof and the fun began.

"Errywigs, sir, I can't abide them creepy, crawly things." "A few earwigs won't hurt you; you do as I say." Gingerly she transferred her right-hand stick to her left and began to manipulate the quilts, saying over and over again, "I ben't a going to be afraid." At last she took the corner of the calico quilt and began to draw it back. The hive is one of 20 frames, and crammed with bees, so no sooner did the opening appear than the Ligurians began to pour out in dozens. One vicious brute stung the back of her hand, and she promptly dropped her sticks to knock the bee off. By this time several were buzzing around her face; she began fencing, and that did the trick. Another sting sent the poor old soul hobbling off at a great pace minus her sticks. Her pace quickened as she began to shout: "Lawky, master, they're in my hair." A vigorous movement of her hands about her head was proof that something had happened to enable her to move her limbs more freely. Her hat came off, and her hair was very quickly dishevelled. "You'll get more stings at that rate," I said, "haven't you had enough?" (one has to be cruel to be kind). A scream, and she made towards the house, where she was received by a sympathetic maid. We got her to sit down. "O' dear o'," she sighed, "I wish my ole man 'ad never seen that ther paper." "Come," I replied, "think what you've been able to do. You ran from the hive to the stables, and then back to the house without your sticks." "Ah, them stings was that sharp I forgot all about my rheumatiz." I examined her and found that the swellings were quite slight, so there was no need to apply remedies. A little refreshment and she was quite herself, but did not think she'd go in for keeping bees. I suggested that as she'd walked so far without her sticks she should try walking home without them, and she did.

Not infrequently I get letters from various parts of the country asking my opinion as to the effect of bee stings on people suffering from rheumatism. I can only reply that I have known a few people who have found great relief, and in one or two cases cure, through keeping bees. Formic acid is, without doubt, beneficial in all cases of a rheumatic tendency; but neither formic acid nor anything else will do good unless the system is kept open with a gentle laxative.

"When is your promised article on 'Women's Institutes and Apiculture' going to appear? I am asked." If my correspondents will refer, they will see that I suggested the *Bee-keeper's Record* as the medium for what I had to say on this question, and not the JOURNAL. It will be found in the November issue of the *Record*, to which I refer those good ladies who have been so kind as to write me on the subject.

It is truly November now. All trees, except the beech and young ashes with the elders, are practically bare. The hedges, however, are still beauteous in their various tints. Many brambles have not even started to change their green for copper and gold, and the dog roses hold tenaciously to their leaves—a lovely sight against their scarlet hips. The hedgehogs have packed their spines with fallen leaves, and buried themselves in the ground until the spring sun calls them back to life. Only the queens of the wasp colonies now survive. It is well to look in the hive roof now and again. Queen wasps are not above entering through the cones, and settling there for the winter.

This week I hope to kill all the grass and weeds around the hive with weed killer. Boiling brine is excellent for killing turf and weeds, but weed killer will last longer in its effect.—E. F. HEMMING, Steeple Gidding.

P.S.—Delighted to see your leader in last week's JOURNAL, Mr. Editors. Hasten the day when bee diseases must be notified, as well as swine and cattle diseases. I hope, however, when whole colonies may have to be destroyed the Government will compensate the owners, unless they can prove wilful carelessness.—E. F. H.

Notes on Bee-Keeping.

I notice from various reports in the B.B.J. that the honey crop has been far below the average takings this season. That is exactly the position up here in the North. In many cases the bees have been obliged to use up the surplue honey stored in the supers to feed the maturing brood. I happen to be situated in the centre of 100 acres of pasture land, where the white Dutch clover much abounds. In other years I have never seen so small an amount of clover bloom as in the past season. The white Dutch clover is the chief supply for honey in this district. The surplus I have garnered this season has been from other sources. In a country having a variable climate, as in the United Kingdom, it is extremely difficult to give even an approximate date of commencement of the honey flow. The bee-keeper must keep a sharp lookout, and judge from past experience as to when the honey is coming in, or ceasing. The first main crop is gathered from the white Dutch clover and sainfoin. Of course, in some districts one gets fruit-blossom, but

the greater number of fruit trees and bushes bloom much too early for any considerable surplus to be gathered from such a source in Lancashire. We bee-keepers up here in the North are not quite so favoured *re* early honey from fruit-blossoms as those in the land of milk and honey, as Mr. Kettle tells us about in his "yarns." The bee-keeper's aim must be to get the bees strong by stimulative feeding by the end of May, to take advantage of an early honey flow. The first intimation of the near approach of the honey flow that will be received will be the blossoming of the red, or broad-leaf, clover. (It is really reddish-mauve in colour, and must not be confounded with the Trifolium, or crimson clover, which blossoms earlier.) About ten days after, the white clover commences to blossom; then, if the bee-keeper will go to the hive, he will find the white streaks on each side at the top of combs commencing to appear. He may now consider that the general honey harvest has commenced. Before many days (about a fortnight after the white clover commences to blossom) the lime trees commence to bloom, and for about ten days or a fortnight it is the very height of the honey harvest. If there are some showers, the honey flow will keep on until the end of July, but after this date little if any surplus will be stored; in fact, in this district it is pretty safe to remove the supers entirely by the first few days in August. To judge when the flow has ceased is quite an easy matter. Watch the entrances to hives. Instead of the bees darting out with lightning-like rapidity, they simply hang around the entrance, challenging every bee that enters, or endeavours to enter. Few, comparatively, fly abroad, and the entrance to the hive, which but a day or two before was pouring out bees going at break-neck speed to gather in the harvest, is simply choked with a few ventilating members and a whole host of sentinels. This evidence of the cessation of the honey flow is unmistabable, even to the most casual of observers.—P. LYTHGOE, Padgate, Warrington, Lancashire.

Bee Notes from Derbyshire.

NOVEMBER.

I think bees have about done foraging for this year in this part of England. They had a wonderful time on the ivy here all last month. They came home head and shoulders covered over with the yellow pollen, and some with loads of it on their legs. On October 21 I was particularly interested in one stock that I am trying to winter among the heather. I went up that day to have a look at them, and they were coming in, six and seven at a time, laden with ivy pollen, and travelling up a great hill from Ashover, 1½ to 2 miles away. As I lay on the heather beside the hive, the sun shone in a clear blue sky, as nice as any day when heather was in bloom, and as the sun was not very high at 2 p.m. I could discern the bees coming through the air over a wall 50 to 100 yards away, but not one bee in ten could hit the entrance after that hard flight. They flopped down in the heather anywhere; they had to take quite a rest before entering the hive. It was quite a surprise to me to find them at work up there at all so late in the season.

To hark back to the heather season is but a step, and a more disappointing heather season I never knew. It was a sea of bloom, with scarcely a drop of honey in it, and beautiful sunny days. On August 11 I was among the red heather all afternoon—a very hot day—and it was well out too, but never a bee did I see amongst it. About 6 p.m. I came to a patch of white heather, and there was fairly a hum in it; then a little further on I got over a wall into a clover field, and it was alive with bees. What little honey they got was clover and white heather, with a little red among it gathered from the 16th to the 20th of August, as I did see them working on it those few days; but about the 20th the weather turned cold for nine or ten days, then when it came warm again the heather was over. But the bees stuck to the clover till the last, and it was all in bloom till they cut it on September 10 (the first crop), and it was only a foot high then, so that shows how slow alsike clover grows, just over 1,000 ft. above sea level. It was 6 in. high when I took bees to heather on August 6. They stood over a wall from heather in this two acres of clover. It proved a real blessing to them, and they had a rare time on it. Only two hives near it, they got plenty to last them the winter; otherwise, so far as heather was concerned, it would have been a walkover.

I, too, tried a motor delivery van to take my bees up this time. It beats a horse and dray hollow. What has been a long, anxious, and tedious job of five hours with horse and dray was accomplished there and back in 1 hour and 50 minutes with ease and comfort. So, with motor transport, it would pay anyone within 30 miles of heather, and a full load, to take them in ordinary years. Not being afraid of getting the horse stung takes a lot off one's mind.

I never saw bees work on limes more than they did about Clay Cross this time.

With clover "a sell" down here, bees seemed to go for the limes with more vigour. From June 15 to July 28 bees had to be fed to keep them going, as only on an odd day now and then were they able to gather nectar. On September 9 I was at Norwell, near Newark, with an old bee-man who is well known at all Notts honey shows. He had one stock working vigorously. He said, "What do you suppose they are working on?" "By the smell of the honey, I should say it is red clover." He pointed to a field that was dead-looking and said, "They are not getting it there." "Well," I said, "I bet there is some somewhere." In a bit I left him and went to Ossington. At a point well known to our junior editor, where the roads to Ossington and Carlton meet, the corner field was a sight to behold. At the first glance it looked just like the heather looks from a distance when it is well out—a purple mass of bloom. "Oh!" I said, "here is where the red clover honey is coming from, and a good mile away." But I got a surprise. I had noticed his bees were dark, with odd ones having a dark golden band. Here they were at work on red clover—lots of them. There were also a few heads of alsike clover among it. And working on this alsike were some very light-coloured Italian bees. I watched a while, but I never saw a light-coloured bee go on the clover. I had always understood that Italians did work the red kind. I saw a hive or two at Ossington—don't know if they were light Italian; but I heard the Vicar of Weston had a hive of Italians. If they were his, and he reads this account, he will be interested to know where I saw them at work, for they must have been over two miles from home; and he will also be interested to know that I saw a hive less than a mile from Weston badly affected with "Isle of Wight" disease, being robbed out by wasps the same day, and that they are all dead now. That was the first I saw of the disease this year, and I had been thinking how well I was escaping it; but I was not many days before I saw it quite plain in one of mine, the best lot even (and I have since seen it in another place five miles from Clay Cross). Well, I tried putting some sulphur in the smoker and giving them a few puffs in the early morning, and—well, I had seen a few score crawlers before, but that day they came out in hundreds, till there were very few left in the hive at night, so I put more sulphur in the smoker and finished the job then. Oh, it's a sure cure; I've seen no crawlers since. But I don't recommend it, as it seems a dangerous remedy. I have three stocks left, and they have shown no sign of it up to now.

TOM SLEIGHT.

Cambridge and District Bee-Keepers' Association.

In conjunction with the Eastern Counties Commercial Fruit Show the above Association held a honey show at the Corn Exchange, Cambridge, on November 5 and 6, 1919, all classes being open to the United Kingdom. The Association was approached early in July with a view to organising a honey show in connection with the fruit show, and so enthusiastically was the scheme taken up that a really splendid exhibition of honey, etc., from different parts of the kingdom was staged. A generous portion of the prize money was provided by the committee of the fruit show. Not for many a long day has there been such a display of honey in Cambridge, and it is gratifying to all concerned, the Bee-keepers' Association especially, to note the interest manifested in the show and the number of inquiries received by those in attendance. The exhibits were well staged and were in charge of the secretary of the Association (Mr. E. C. R. Holloway), Mrs. Holloway, and Mr. S. H. Smith (of "Flavine" fame). Mr. Alan Sharp, of Litlington, was the judge, assisted by Mrs. Holloway in the cake section. The awards were as follows:—

1. Six 1-lb. sections.—1, W. S. Halford; 2, A. E. Warren, Bletchley; 3, W. P. Vassie, Althorne. (Four entries.)

2. Best twelve 1-lb. screw-capped bottles light-coloured honey.—1, Mrs. Gordon, Whittlesford; 2, E. Holloway; 3, W. P. Vassie. (Eight entries.)

3. Best twelve 1-lb. screw-capped bottles medium-coloured honey.—1, A. Warren; 2, W. S. Halford, West Wratting; 3, G. Dellar. (Five entries.)

4. Best cake, sweetened with honey.—1, Mrs. Gordon; 2, S. Hancock, Carmarthen; 3, A. Warren. (Six entries.)

5. Collection of small cakes, sweetened with honey.—1, S. Hancock; 2, Miss O. Scott, Hull; 3, W. S. Halford. (Six entries.)

6. Best collection of beeswax in marketable form.—1, Mrs. S. Scott, Hull; 2, P. J. North, Cambridge; 3, Mrs. Holloway. (Eight entries.)

7. Best 1-lb. jar of extracted honey gathered in 1919.—1, T. Wells; 2, E. Holloway; 3, S. Sanderson. (Fifteen entries.)

8. Best collection of bee appliances.—1, Miss Shrive, Cambridge; 2, W. Humphries.

In Class 7 no entry fee was charged, but the exhibits became the property of the Association. The honey was sold, and as a result a cheque for £2 has been handed to Addenbrookes' Hospital, Cambridge.

Leicestershire and Rutland Bee-Keepers' Association.

This Association have sent the following resolution to the Board of Agriculture:—

Lord Lee,
President of the Board of Agriculture and Fisheries.

My Lord,

On behalf of the Council of the Leicestershire and Rutland Bee-keeper's Association, we beg to append a resolution passed on October 25, 1919, which we trust will receive your earliest attention.

The Council feel that present conditions afford a unique opportunity for placing the bee-keeping industry on a sound footing, and hopes that the Board of Agriculture will take advantage of this opportunity.

We are,
Your Lordship's obedient servants,
(Signed) W. G. Dunn (Chairman),
A. Briers, Secretary.
27, Winchester Avenue,
Leicester.

Resolved that:—"Whereas the craft of bee-keeping and honey production is now officially recognised as an important national industry: and

"Whereas such industry is seriously handicapped by the 'Isle of Wight' and other diseases which are directly responsible for the loss of many hundreds of bee-colonies annually, with the resultant loss to the nation of large quantities of home-produced honey, and

"Whereas the spread of 'Isle of Wight' and other diseases is, in many cases, undoubtedly due to ignorance, supineness or cupidity of individual bee-keepers and others who fail to adopt suitable measures for preventing or checking the spread of disease; the Leicestershire and Rutland Bee-keeper's Association, realising in common with other similar Associations the impossibility of effectively checking the spread of bee diseases under existing conditions, respectfully but most earnestly urge the Government to adopt legislative measures for counteracting such diseases in the interests of the community at large."

On behalf of the Council,
(Signed) W. G. Dunn, Chairman.
A. Briers, Secretary.

The Secretary,
Board of Agriculture and
Fisheries,
Whitehall Place,
London, S.W.1.

[To all Associations who desire legislation, we commend the above as a model of what should be done. If it is the desire of bee-keeping associations that legislative measures be adopted, they should leave no stone unturned at the present juncture, when the Government are considering the matter, to place their views before the Board of Agriculture on similar lines to the above. We would suggest that the number of members represented be also stated. Not only should the resolution be forwarded to the Board of Agriculture, but also to the Members of Parliament throughout the country, asking them to take the matter up in the House, and also support any measure which may be presented to Parliament in connection with bee diseases. Copies should also be sent to the Secretary of the British Bee-keepers' Association for the purpose of information.

Individual bee-keepers who may not be members of an association, but who desire legislation, should also write to their Member of Parliament asking for his interest and support.

We would also remind bee-keepers of the Petition for Legislation, inaugurated by the B.B.K.A. some time ago. This should be put before bee-keepers to obtain their signatures, and returned as early as possible to the Secretary. More forms may be had upon application, either by secretaries of Associations or individual bee-keepers sufficiently interested to obtain signatures. Now is the time to push this matter, and it must be done at once. To use a common slogan: "Do it Now."—Eds.]

Gloucestershire Bee-Keepers' Association.

In connection with the Root, Fruit and Grain Show, and the Educational Section of the County Council, a most successful show of honey was held in the Shire Hall, Gloucester, on Monday, November 10. There were over 60 entries, and the competition in several classes was very keen.

The hon. secretary (the Rev. E. J. Bartleet) was early on the spot, and, assisted by an able body of workers, led by Mr. E. J. Burtt, had everything in readiness for the judge, Mr. Patton, soon after 10 o'clock. His labours were by no means light, but so well and impartially was his work carried out that universal satisfaction was the result.

The Novices' Class for extracted honey (those who have not won a prize before) was a very full one, and produced some excellent samples. A trophy arranged by Mr. Goodrich—one of four most energetic members—was a great feature of the show. The class for wax was also worthy of notice.

The following is the list of prize-winners:—

1. For the best trophy of honey above

50 lbs., but not exceeding 100 lbs.—Mr. W. J. Goodrich.

2. For the best 12 sections of honey.—1, Rev. E. J. Bartleet; 2, Mr. W. J. Goodrich.

3. For the best 6 sections of honey (novices).—1, Mr. W. E. Wigmore.

4. For the best 6 bottles of extracted honey (novices).—1, Mr. H. E. Mountney; 2, Mr. G. Kirkland; 3, Mr. G. H. Smith; h.c., Mr. G. Dent-Brocklehurst.

5. For the best 12 bottles of light honey.—1, Mr. W. J. Goodrich; 2, Mr. Rickards; 3, Rev. J. H. Fowler; h.c., Dr. Whittery.

6. For the best 12 bottles of dark honey.—1, Mr. W. J. Goodrich; 2, Rev. E. J. Bartleet; 3, Rev. J. H. Fowler.

7. For the best 6 bottles of granulated honey.—1, Mr. W. J. Goodrich; 2, Mr. H. E. Bailey; h.c., Rev. E. J. Bartleet.

8. For the best 2 shallow frames of honey.—1, Mr. W. J. Goodrich.

9. For the best bell glass or exhibit of fancy honey.—1, Mr. W. J. Goodrich.

10. For the best sample of beeswax not exceeding 2 lbs.—1, Rev. E. J. Bartleet; 2, Mr. W. E. Wigmore; h.c., Mr. W. J. Goodrich.

11. For the best fruit cake containing honey.—1, Miss Butler; 2, Mr. W. H. Thomas.

12. For the best Madeira cake containing honey.—1, Miss Butler.

13. For the best biscuits containing honey.—1, Miss K. W. Hirain; 2, Miss Butler.

14 (Gift Class). For 1 lb. clear glass bottle of extracted honey.—1, Mr. W. J. Goodrich; 2, Rev. E. J. Bartleet.

15 Gift Class). 1 section of honey.—1, Mr. W. J. Goodrich; 2, Rev. E. J. Bartleet.—*Communicated.*

The Royal National Eisteddfod of Wales.

We have received a list of subjects. prizes, adudicators and conditions of the above, to be held at Barry, August 2nd to the 6th, 1920. Those who have read of the proceedings at these Welsh national festivals will know that they cover a very wide range of subjects in literature, music, art and science. In the last mentioned, under the heading of "Biology," we notice a prize of £5 is offered for "An original research into the origin of the 'Isle of Wight' disease in bees, and of the method of utilising this in combating the disease."

The adjudicator is Prof. W. N. Parker, Ph.D., F.Z.S. The list may be obtained from the General Secretary, D. A. Evans, Esq., "Glyn Geraint," 15, Somerset Road, Barry. Price 9d.; or post free 11d.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Medicated Food for Bees.

[10037] It has become the general practice to feed bees with medicated syrup, or candy. This, to my mind, is wrong, except under certain circumstances, such as when foul brood is present in a hive, and my object in writing is to discountenance the practice. It is not common sense, nor do I believe it good for the bees, to give medicated food generally; the simpler the food the better. Sugar, as syrup or candy, is given, as it closely resembles honey, but it lacks a very important principle as a food in that it contains no proteids or nitrogenous bodies. It would be much better to add a small quantity of beer or other food to the syrup, as our forefathers did, as it contains a fair proportion of proteid matter in addition to the carbohydrates, etc., which would take the place of pollen, rather than a medicament. This in my opinion would be especially beneficial in feeding driven bees, or in autumn feeding, as then pollen, which is practically the only nitrogenous principle in bees' food, is scarce, and yet it is essential in maintaining life. We do not medicate our food in order to ward off attacks of influenza, etc., and in "Isle of Wight" disease it has been proved, I think, that even honey from an infected hive is not a means of spreading the disease; therefore, why medicate it? In cases where foul brood is present, medicated food might possibly do good, though even then I have my doubts; but it seems to have become the custom to medicate practically all food for bees, and although the agents used may not be poisonous, in the doses used, the constant use of such food cannot but be injurious to the health of the bee.—William Allen, M.B., C.M., Ambleside.

Notes from the West.

[10038] A correspondent referred a few weeks ago to "Seasonable Hints" in the issue of August 8. It is some surprise to me that others have not done the same thing. There is more food for reflection in the last sentence of those "Hints" than many present-day bee-keepers will be ready to admit. We seem to have gone

wholesale for foreign importation, condemning our native bee as fit for nothing better than a small place in the dark corner of a museum, to remind the coming generation of bee-keepers of our folly in sticking to it so long.

But are we really not leaving a "good thing" behind? Every experienced beeman must admit that even the discarded British bee has some good points possessed by no other race. We know they fell an easy prey to the much dreaded disease, and because of that they must not again be seen in a modern apiary. But have we not proof after proof of some of these bees showing such splendid disease-resisting qualities that we could almost brand them as "immune." And now, would not these remnants of a race which have stood the strenuous tests of the last 15 years be the best material to use as a foundation on which to build the new structure? I have always favoured the British bee, and after about 18 years' experience with them—and a little with foreign varieties as well—I am still of the opinion that it would be well for us not to leave them *entirely out* of our production of "the future bee."

At the rate we are now going, we shall, in two or three years' time, bewail the fact that the Dutch and Italian bees were the only factors in our re-stocking schemes. We all know what a swarmer the Dutch bee is, and from reports which have appeared in the JOURNAL lately, there are some strains of Italians which would even put them in the shade in this respect. These qualities may be all right just now, when swarms are desirable—for filling the great number of empty hives in the country—but I venture to say the time is not far distant when we shall all be turning our energies to producing "a non-swarming" strain of bee.

I will say nothing here of the superiority of the native bee as a comb-honey producer, nor of how very "amenable to treatment" it is when worked solely for honey, with no desire to increase.

I think, as a class, we bee-keepers are rather conservative. We will not readily change our hives, frames, or bees if what we already have gives us some measure of satisfaction. But I am broad-minded enough to make any change for the better in anything apicultural. Although my present strain of native bees are giving me good service, if I can in any way improve their stamina, and work them up into even a better strain, I am quite eager to do so. As a matter of fact, I had hoped to experiment this year by breeding drones from a good, reliable strain of Italians to mate with virgins bred from my best native queen, in order (next season) to breed some British-Italian queens from the mating. But although ordered early in the spring, that Italian queen has not yet turned up, and I (as well as many more) have to wait till 1920 before the order will be executed. The native queen I intended breding from is "perfection" from a honey producer's point of view. She is 1918 bred, well-developed, extra prolific for a native, and her bees are fine honey gatherers and cappers. Above all, they are very gentle under manipulation, and although at one time a huge colony they showed no desire to swarm. I need not say this queen is being kept over till next season, when I hope (D.V.) to reach the goal I am aiming for.

A point of great importance, in my opinion, is to have the best possible *native* blood as a *foundation*, and introduce the foreign element from the *male* side only. I am afraid many of us have forgotten the fact that disposition is transmitted by the drone, while other qualities come from the queen. I wonder what percentage of the Italian virgins bred under the re-stocking scheme, have met Italian drones. I venture to think most of them are mated to dark drones, either Dutch or native. These first crosses may not be very difficult to handle, but what of the second and third generations when next season comes along? We also seem to forget that a pure Dutch queen will always produce pure Dutch drones, even if she herself is mated with an Italian or some other drone, and the same is true of all other pure queens of course.

I had a chat on this subject the other day with the worthy Secretary of our Association—the Cheshire. He has had a very wide and most successful experience in the handling of the re-stocking scheme for that county. In the course of our bee chat he mentioned that one of our members who had taken part in producing nuclei under the scheme pinned his faith on, a "British"-"Dutch-Italian" bee, as the most likely product to suit all our requirements. Mr. Franklin himself also seemed to share the same opinion. This, to me, coming from such an authority, was "as cold water to a thirsty soul." But when can we have such a bee?—the progeny of a British queen mated to a Dutch-Italian drone? When available, it will be welcomed by many old hands, including the writer of these notes.—T. ALUN JONES, Halkyn, Flintshire.

The Standard Frame.

[10039] The majority of your correspondents on this subject—if not all—seem to have overlooked the fact that what suits one district will not suit all. Each one naturally writes of his—or her—ex-

perience in the one particular district. Now I, having been somewhat of a nomad, have had a pretty well all-round experience, and, if I was keeping bees for *honey only* in a good fruit, sainfoin, and-or clover district in the south, I would not have the Standard frame at any price, but would most certainly go in for a deeper one. But what about the heather districts? Beginning at the South of England, and going to the North of Scotland, with the Derbyshire, Yorkshire, Northumberland and other moors intervening, and also a great part of Wales. For most of these districts a deeper frame would be utterly useless, for bees working on heather *will* look after their own larder first (I might state they will do this anywhere during a glut), consequently in a moderate, or poor heather season the brood combs are filled as fast as the young bees emerge, and if deep frames were in use very little, if any, honey would reach the supers, and even in a good season only half a crop of super honey would be obtained. Of course the surplus in brood combs could be pressed out, but that means destroying the combs, and then, again, there is no comparison between pressed honey and honey in the comb, saying nothing of the difference in price obtainable.

Before the advent of the "Isle of Wight" disease, I daresay there would be as many bees kept in the heather districts as in all the southern flower districts, and it is fair to suppose that such will be the case again; therefore I cannot see how we are to get away from the present Standard frame for these districts. In a great part of the northern heather districts, heather honey is the only honey thought of as a honey, all other flower-honies are merely looked on as feeders for getting colonies into condition for the heather. And how are we to get away from the commercial side of the question—trading in bees on frames of comb, stocks, and nuclei. Not many bee-keepers of any account nowadays carry all their eggs in the honey basket; the majority, I think, go in for trading in bees as well, and if not selling, have to buy occasionally. What is more awkward than having frames come into your apiary which will not fit the hives in use? I have had some, so know. I had for years three sizes in use, the Standard, a deeper one, and another still deeper, say, about a dozen of each. This was in a good clover district, with just enough fruit bloom to keep breeding going, and I always found that the colonies on the deepest frames came out strongest in spring: were ready for supering—or swarming—a week or two earlier than bees on the Standards, were not so apt to swarm, and did not require near so much feeding up for winter. Often those on the Standards would all require feeding up, while the majority on the deep ones required none.

As a number of our Southern friends seem to have in use the deeper frames, and will no doubt have made converts through this correspondence, why not those amongst them who have standards in use, and are about to try the deeper frame, keep to the standard length? Where hives are W.B.C.s a shallow eke underneath, as suggested by Mr. Charlton, will give required depth, and where not W.B.C.s, a shallow lift to fit top of brood compartment for frames to hang in will do it. Combed standard frames may then be utilised by taking off bottom bar, nailing on each end of it a ¼ in. thick strip of length required to deeper frame, then to these two strips tack inside other strips about 1½ in. longer; these longer strips tack to inside of bottom end of the 8-in. side bar. This will make frames strong enough for any ordinary purpose, and no waste, except that a good comb must be cut up for making strips to fill new space: one good comb will make three or four strips. With all due deference to Mr. Manley and others, I think the 14-in. long frame is quite as good for a brood nest as the 16-in. one, and in tiering up it would be much more than an ordinary wind that would upset the hive if placed on a stand 18 to 20-in. square.—ROBIN HOOD.

"Isle of Wight" Disease.

[10040] I sincerely trust that Mr. Edwards will write, and that you will print, his further article on "Isle of Wight" disease. But I also trust that he will be a little more definite than in that appearing in your issue of October 30. Particularly I hope he will give us the evidence of his present cures, and also that on which he based his diagnosis. The article already published is rather vague in places. What does Mr. Edwards mean by a "mucous growth?" To a pathologist it would convey a tumour composed of mucoid tissue—that is a myxoma, but I do not think Mr. Edwards means that. He refers to diphtheria in children—why in *children* I do not know. But there is no mucous growth connected with diphtheria. The so-called membrane characteristic of that disease is composed of a mere exudation with dead mucous membrane.

No; the evidence that *N. apis* is the cause of "Isle of Wight" disease is overwhelming.

"Does anyone know of a stock of bees

infected with "Isle of Wight" disease, the diagnosis of which has been confirmed by a competent bacteriologist, which has recovered, and seemed healthy subsequently for 12 months?—G. R. STRONG.

A Swarming Record.

[10041] Is this a record for bees swarming? I hived a small swarm of Dutch-Italian bees I found on a hedgerow the second week in July, 1918. I hived a first swarm from it May 13, 1919, and another on the 27th, also one June 4. I lost all records of the other swarms, but have had 14 swarms from the one mentioned above; this I think is very good, if not a record.—H. ELEY.

Questions, etc., for Bee-keepers for Self-Examination.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

397. How far is it correct to say that bees hibernate in the winter?

398. Describe the "Federation" bee-escape.

399. Show how combs, whether in frames of sections, may be conveniently cleaned of honey after extracting.

400. What is likely to happen if a new queen is merely placed inside the brood box of a hive? Explain.

401. When in the year is robbing to be expected, and why?

402. Describe briefly the Syrian bee and Cyprian bee.

403. Why is it advisable to melt down as soon as possible any combs destined for melting?

404. How is the presence of a laying worker in a hive indicated?

405. What is recommended as a means of improving the quality of drones in an apiary?

406. Describe minutely how bees in a hive should be packed down for winter.

407. Explain the terms protozoon, endemic, bacterium, parasite, spore, epidemic, pathogenic, vertigo, epithelium, protoplasm, planont, meront

408. Give the present state of knowledge as to a sense of hearing in bees.

J. L. B.

The many friends of Mr. J. Smallwood will be sorry to hear that he is in hospital, where he has to undergo a somewhat serious operation some time this week. We hope it will be a success, and that he may soon be restored to health.

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of October, 1919, was £41,437. —From a return furnished by the Statistical Office, H.M. Customs.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

November 25 and 26, Barnstaple Great Open Show.—Poultry, Pigeons, Cage Birds, and Horticultural Produce, including Honey (three classes).—Schedules post free from the Hon. Secretary, Wm. E. Hart, Devon Seed Stores, Barnstaple.

Special Prepaid Advertisements

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1½d. *per word as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

CORRESPONDENCE Course in Bee-keeping.—MISS F. E. PALING, Golden Square, Henfield, Sussex. rw.31

SECTIONS, 9 dozen, what offers, or exchange for run honey.—E. BOOBIER, Bishopston, Swansea. w.32

WANTED.—Will anyone in Britain stocking Quinby, 18 in. by 12 in., or Langstroth-Hoffman dovetailed frames, kindly submit sample and price to CLARIDGE, Copford Apiary, Colchester. w.33

7¾ CWTS. LIGHT HONEY, 28-lb. tins, £10 per cwt.; tins free.—WILLIAM HINER, Swaffham Bulbeck, Cambs. w.34

OFFERS wanted for four 28-lb. tins pure Wiltshire Honey; granulated.—B. S. SMITH, Hanging Langford, Salisbury. w.35

GRAMOPHONE RECORD EXCHANGE.—Will exchange Records 5d. each, not less than six, return postage free.—6, Rood Lane, E.C. Particulars stamp. rw.36

HONEY and Ferrets for Sale. 28-lb. tin best English Honey for 50s., carriage paid; tin returned. Strong, healthy Ferrets. 15s. each, been worked, carriage paid.—J. WHITE, Fairstead Hall, near Witham, Essex. w.23

PURE light Cambridgeshire Honey, 14-lb. tins, 22s. 6d.; 28-lb. tins, 42s.; tins free; sample 4d. —J. YOUNGER, 6, Maid's Causeway, Cambridge. w.25

HONEY.—1 lb. cartons, 14s. per dozen, f.o.b.; sample, post free, 1s. 3d.—HORSLEY, "Merridale," Douglas, Isle of Man. w.28

PURE ENGLISH HONEY in bulk.—Particulars, BUTLER, West Road, Histon, Cambs. w.10

WILL all those bee-keepers possessing 25 stocks of bees and upwards kindly send particulars to SECRETARY, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.? v.42

WILL all those who are not in favour of legislation please communicate with Box 48, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. v.28

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

ARMY WATERPROOF GROUND SHEETS, 72 by 36, brass eyelets, two for 5s. 6d., four for 10s.; also some suitable covering outhouses, motor sheds, etc., 15s. per dozen.—SAGAR'S STORES, 69, Hyde Road, Ardwick. w.30

THE FLAVINE TREATMENT.—"My bees were never profitable until I used Flavine. I remember with gratitude that my first supply of the drug was sent to me gratis by yourself. My bees have prospered ever since."—A. C. R. (Blackheath). w.37

LARGER FRAMES.—Please state requirements and ask for price.—BURTT, Manufacturer, Gloucester. w.38

ITALIAN QUEENS direct from Italy. Price list for 1920 on application.—Address, E. PENNA, Bologna, Italy. w.39

THE
British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary,

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

THE WEST OF SCOTLAND AGRICULTURAL COLLEGE.

BEE-KEEPING DEPARTMENT.

The Governors invite applications for the following appointments:—(1) Assistant Lecturer in Bee-keeping, present rate of remuneration £182 10s. per annum; (2) a person, with good practical knowledge, to assist in the Re-stocking Scheme, wages 50s. per week.

Applications, stating age, practical experience, theoretical training, if any, and accompanied by references, must be lodged with the undersigned before December 1, 1919.

JOHN CUTHBERTSON,
Secretary.

6, Blythswood Square, Glasgow.
November 6, 1919.

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

Books for Bee-keepers
NOW IN STOCK.

		Postage
A Modern Bee Farm (S. SIMMINS)	7/6	6d.
Bee-keeping (DR. E. F. PHILLIPS)	10/6	6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	3d.
Dissectible Model of Queen Bee	4/6	3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	1d.
Honey and Health (A. HOPE)	-/6	1d.
Honey Vinegar (REV. G. BANCKS)	-/2	1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	2d.
Productive Bee-Keeping (PELLET)	10/6	6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.)	2/-	3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	2d.
Scientific Queen Rearing (G. M. DOOLITTLE)	3/6	4d.
Snelgrove's Method of Re-Queening	-/6	1d.
The "Townsend" Bee Book	2/6	2d.
WAX CRAFT (T. W. COWAN)	2/-	2½d.
Wilke's Book on Swarming	1/-	1½d.
MISCELLANEOUS.		
Maeterlinck's Life of the Bee	3/6	3d.
The Lore of the Honey Bee (TICKNER EDWARDES)	2/-	2d.
The Humble Bee (F. W. L. SLADEN)	12/6	6d.

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

The 'Kent' Standard Model Hives & Appliances

TESTIMONIAL. *May* 12.

DEAR SIR,—I have had an opportunity of comparing the material and workmanship of your hives with others on the market, and in my opinion there is no sort of comparison between the two, yours being altogether superior in every particular.—Yours faithfully,——

S. J. BALDWIN, Stanley Road, Bromley, Kent.

The Metal Comb.

A demonstration on the Metal Comb will be given by Dr. Abushâdy at the Library and Museum Room of the B.B.K.A. on Friday, December 12, between 2 and 4 p.m. He will principally deal with the McDonald Comb and his favourable experience with it, and will also discuss desirable improvements.

It is not sufficient to introduce an improved metal comb if it becomes merely an article of luxury which cannot be afforded by the average bee-keeper. For this reason Dr. Abushâdy had to discard his original design which the manufacturers have finally reported their inability to produce at less than 10s. per comb, which is naturally beyond consideration. He is experimenting at present with other patterns, for the sake of producing an economical metal comb of an improved type. Nevertheless, he requested us to give publicity to the foregoing facts, as originally promised, for the benefit of bee-keepers who would prefer to make other arrangements.

The demonstration, no doubt, will interest many apiarists. All bee-keepers whether members of the Association or otherwise are welcome to attend.

The West of Scotland Agricultural College.

This College is doing good work for bee-keeping in Scotland, and that this is increasing in volume and importance is evidenced by the necessity of making two more appointments, one as assistant lecturer and another as assistant for the bee re-stocking scheme, as advertised in the last two issues of the B.B.J.

The College has also just issued a very useful booklet (Bulletin No. 93) on "The Production of Honey," written by Mr. J. Tinsley, the lecturer in bee-keeping.

Scotland has suffered heavily from "Isle of Wight" disease, and we are pleased to hear that the activities of the West of Scotland Agricultural College, and also other organisations are reviving the industry, and bee-keeping is now going ahead.

A Dorset Yarn.

Our bees were out on Monday, and in large crowds on Saturday. After the bitter cold week at Birmingham, it was good to be back in Dorset, and hear the bees once again. Saturday was so warm they could not help but come out, they seemed to be everywhere, flying across the yard as they were in September, yet there are not many flowers for them, beyond the Laurustinus, which seems to be in bloom the greater part of the winter. These small flowers were a great attraction. They go to the raspberries, but the frost seems to have blackened the greater part of them.

At Birmingham there were some enthusiastic bee-keepers. Though there was no honey class they came with the horticultural exhibits, all spoke of light honey harvests, but they had sold young stocks, and had thus made more than they could possibly have done had they not sold and depended on the honey harvest. One of them said he always had his bees in the large peach houses when the trees were in blossom, they built up the population by doing so. These trees give so much blossom early, it must help them considerably. I did it once, but only once, so many bees tried to get out, they were not content with all the flowers in these peach houses, 100 ft. long, they beat themselves against the glass, and many of them died, yet this bee-keeper does it, and he says they do not try to get out but go over all the flowers; he gets a regular set of fruit over the trees by their help in the fertilisation. His were content with the glass-houses, mine were not, they (like the owner) loved freedom. Those who advocate housing bees in winter might try them in their peach-houses; one must assume that there is a lot of food in these flowers, as bees work them out in the open where they are grown largely, as they do the showy almond, which has the same sort of flowers. The ancient title of this fruit is "The Apple of Persia," correctly Amygdalus Persica. Old tradition has it that this fruit was poisonous in Persia, and was sent by one of the rulers of that country to Egypt, in the belief that very many would eat of the beautiful fruit and so die. Persia was afraid Egypt would be too powerful a neighbour, and hoped that these fruits would be a curse to the country, but they turned out to be a blessing, they grew so big, so delicious, "they ate and were filled," no fatal results came from eating them, but they were a most delightful and refreshing food.

Some writers have said that it was really almond kernels that were sent to Egypt, and the rich alluvial soil of the

Nile Valley produced this new race of fruits.

"Apples which more barbarous Persia sent
With native poison armed (as fame relates),
Though now they've lost their power to kill, and yield
Ambrosian juice, that have forgot to hurt,
But of their country still retain the name."

This is going away from bees again, but when bee-keepers are advocating the housing of our bees, this would not be a bad house to put them in for the winter provided it was not heated.

We are now using for ourselves honey that was gathered in August. We assume it to be mostly heather, the box of shallow bars was put on before going on holiday, with a rack of sections at the same time. The sections were only partly completed. We each year find that they do not readily fill sections with heather honey, but will fill standard and shallow bars; where there are only sections on the brood chamber in August, they prefer to fill up a large part of the brood-chamber, rather than the sections. The shallow bars were put on without a queen excluder, as were the sections, the queen does not get up in them when August comes along. Why this should be so is beyond my comprehension. Why should they work in sections at one time and not at others? Is it for late harvest they prefer to have stores where it is easily got at in winter; still it is delightful tasting honey. We like to have this taste of the "Bonnie, Bonnie Heather," though we do not hail from the "land of cakes." We sell the sections as mostly heather, but unless we use them ourselves we never can tell, we have found totally different flavoured sections out of one rack, and even the top half of a section differing from the bottom half; we have found the top half candied, and the lower half not, proving that bees left charlock and went off in a body for the heather when it was ready.

Bees are still in demand, readers of the JOURNAL still write to me through the head office for bees. Anyone who has more than they can manage, if they have an advertisement in the JOURNAL, they will soon clear them at good prices. As I have written before, our bees are too great an asset to the farm, we cannot sell them, we are trying to build up a race that will be immune to disease. Some have written me that they have sold £15 worth of young stocks, which proves that the craft is booming.—J. J. KETTLE.

Jottings from Huntingdonshire

The passing of the frost and snow on the 17th brought forth on the following day warmth and sunshine, when every hive entrance was alive, and the pleasant hum was good to hear. Not every bee was content simply to dance in sunshine near their hives, for many went bolting off to survey the land, returning home to announce that desolation swept o'er the earth. Walking from hive to hive on the 19th—for the bees have been out each day this week—I noticed, with dismay, several drones upon the alighting board. Did it mean the stock was queenless, or that disease was present? The strange uneconomic instinct in bees to keep their drones in full strength when disease is present is more than compensated for by their keeping them until the verge of winter when they are queenless, or have a queen suffering from senile decay, hoping against hope for the fertilisation of the virgin they trust may yet be born. I confess my heart sank for a moment at seeing these fat, cumbersome drones within a week of December; it, however, rose again when I saw that these drones were refused re-admittance to the hive. One often wonders why so many drones are produced. Necessary, of course, to carry on the race; yet that the workers should tolerate such a number of lazy fellows during the honey flow to soil the combs, consume the honey, upset the sentinels, and generally place themselves in the way of the foragers as they return is amazing. It may be a revival of an instinct. Possibly in the far distant past, during the Miocene era, or may be further back still in the Oolitic era, when gigantic ichthyosauri and other monsters walked the earth, all insects paired off, rather than work in colonies. Early in the Eocene era was the epoch of flowers, and as we pass through the Oligocene to the Miocene periods, we find there existed true bees, ants, and butterflies. Undoubtedly there was pairing then. Some will ask what instinct compelled the bees to work in colonies? a thing they were doing as early as when man first began to write history by signs and symbols, ere Father Thames had cut his zig-zag way from the Cotswolds to the sea. What compels anything living to live in crowds? Surely fear, and a sense of realising protection in numbers. Of what were the bees afraid? Newts, frogs, reptiles, and birds, but these are their enemies still. True, but which of these would enter a *colony* of bees? They will swallow odd ones galore, but generally keep a safe distance from the danger zone. Even toads, which will sit on the

alighting board and gobble up odd bees that may be crawling about will take a hurried departure as soon as the bees show fight. No, I'm inclined to think the land tortoise, 20 ft. long and 7 ft. high, that existed in the Miocene era, was responsible for the bees of that period taking refuge in trees, high up, and in large numbers. This monstrosity would easily consume a whole colony of bees if within reach; the bees kept out of reach and so survived, and the land tortoise ultimately became extinct.

However, to get back to the question of drones, why, it may be asked, did the bees still breed so many males when the period of pairing off had passed? I'm inclined to think that they were retained for the same reason that elephants grew fur, and rhinoceri walked these islands clothed in wool—i.e., warmth. They were necessary to maintain a correct heat for the hatching of eggs, and were in those days foster fathers to the colony. To-day they are only tolerated as possible royal lovers, and tumbled out when the cold arrives, showing that they no longer are necessary for conserving heat. In fact, I believe it has been noticed that drones are gradually becoming more and more indifferent to work of any kind, which seems to prove that the old instinct of pairing off is passing away for ever. When one thinks of evolution it is necessary to bear in mind that the passing of ten centuries makes a perceptible, but small difference to any living thing, to which the bees are no exception.

During the past week I have been sounding a few people on the question of legislation, and so far have not come across one single person who feels other than strongly in favour—in fact, most of them aver that the time is over-ripe for such legislative action as may be necessary to protect those loyal bee-keepers who do all in their power to keep down disease and to keep it at bay, while possibly a neighbour over the hedge is carelessly allowing a diseased stock to affect the whole neighbourhood. Of one thing I am perfectly certain: If we members of the masculine gender don't exert ourselves in this direction, the ladies will come along and rob us of the fruits of victory. Say what you like about women's franchise, women in Parliament, and in the Cabinet; can the most confirmed woman-hater imagine a Parliament of women tolerating "Isle of Wight" disease, foul brood, or any other infectious bee disease to go merrily on its way, ravaging the apiaries from Caithness to Cornwall, without legislation? It would be interesting, to say the least, if those opponents of the Bee Disease Bill would come out in the open and state their objections to such a Bill becoming law.

To go off at a tangent. Those people who are expecting Dutch swarms or nuclei next spring, will be well advised not to get in too much weed foundation. Unless Dutch bees are given ample opportunity for making wax they will swarm perpetually until they find a place where they can build their own combs all to themselves.

My one objection to metal combs is the ultimate danger of the wax secreting glands becoming atrophied!—E. F. Hemming. Steeple Gidding.

Bee Notes from Derbyshire.

On Aug. 16 I had one stock of bees at the heather meant swarming—quite a new thing to me. It came to me a three-frame nucleus on June 18, and as I had a hive at the heather I carried it straight there. I had cut eight queen cells out on August 9. Thought that, and giving another frame to make eleven, would stop them; but the queen never laid an egg in it, and they were up in sections, but as the honey came in so slow they would not work them out, although it was a 1919 queen, so, to head her off swarming, I made a three-frame nucleus. They reared a young queen, and I saw she was laying. In 20 years that is the first time one has offered to swarm at the heather.

Bees are still very scarce about here. I heard the other day of an apiary near Chesterfield of 15 stocks started with "Isle of Wight" disease in the spring, and one by one they have gone, till none are left now. A great many went with it last winter. There seem to be some bees immune from it for a while, but eventually they go. One such lot went last winter. The place had never been without bees for 70 years kept by the owner and his father, and they live on a hill not a quarter of a mile from the oil well at Harstoft. He was a bit puzzled to know how he got it, as he could hear of no bees that had it within three miles of him last winter. He laid it to some new foundation that he used, and are we sure that we don't get it with the foundation? That is a problem that will puzzle the best of us. The bees seemed to be kept indoors in the spring till May; then came some good bee days that lasted right on till June 15. I only saw one stock in the spring, and it did remarkably well. From a very small lot it picked up till on the last Sunday in May it had three supers on, all about full, and honey was rolling in; it literally poured into that hive that day, by the way bees worked. They kept at it till June 15, and about filled four supers; then

they swarmed and went to find pastures new: but unless someone found them I can't think they would live long, as the weather that followed would starve the best of swarms to death. Well, that was extraordinary, for about here how many times have we seen June in and never a super on.

I don't know what to say about a large frame, but I do know these golden bees will fill eleven of these standard frames of comb up pretty quick. I had a three-frame nucleus on May 30 that in a month was ready to super, which I did with eleven more standard frames. The queen soon had brood in five of them: it did not seem to bother her about space between frames. I can understand a larger frame, but where can one get the foundation to fit it?

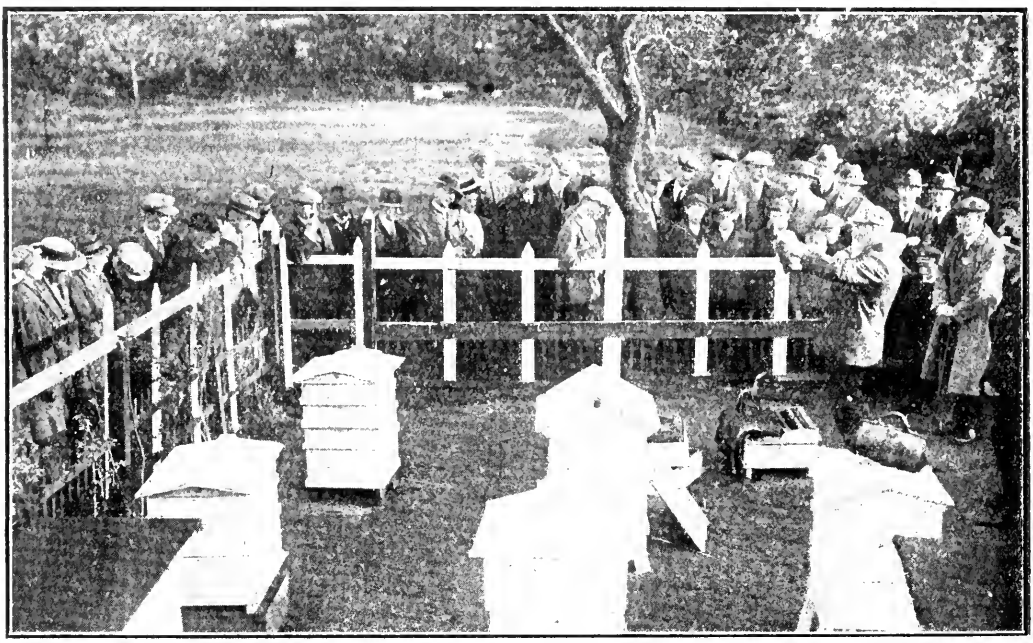
About a month ago I was cycling from Tuxford to Ossington, and at Moorhouse I came across the most primitive set of wood hives I have ever seen. Two years ago the owner had 14 stocks go under. He had never heard of "Isle of Wight" disease, so he described how they died. It was the same old crawling. I said, "Don't you ever read the BEE JOURNAL?" He said he had never seen that bee, did not know what kind it was. He did not think I meant a paper till I told him. He had kept bees 12 or 14 years, and only once in all that time had he come across a man who knew aught about bees, who told him how to make those curious wood boxes he had. He had one stock in the spring, and it swarmed on May 13. It filled a super and some sections, but he had no dividers in the rack, so they were about all grown together. I got one, a fair one—the honey fine, a straw colour, and very thick. In all my travels I never saw a more cosy, ideal place for a dozen hives.—TOM SLEIGHT, Clay Cross, Derbyshire.

Homes of the Honey Bee.

APIARIES OF OUR READERS.

MR. B. T. ABELL.

Herewith we show a photograph of the apiary of a well-known bee-keeping expert, Mr. Bertram T. Abell, "Stallington Apiary," Blythe Bridge, Staffordshire. For upwards of twelve years Mr. Abell has been a prominent bee-keeper, having commenced the useful hobby of apiculture when quite a boy; in fact, he would be one of the youngest bee-keepers in North Staffordshire at that time. He has done, and is doing, a great deal to encourage apiculture by placing the results of his studies and experiences at the disposal of bee-keepers, and those interested in the subject. At a meeting of bee-keepers recently held, Mr. Abell was unanimously appointed local expert and representative of the Blythe Bridge district, connected



MR. B. T. ABELL'S APIARY.

with the Staffordshire Bee-keepers' Association. He has also been a very prominent figure amongst exhibitors from time to time. He has this year won numerous prizes and medals at Altrincham, Knutsford, Blythe Bridge, Uttoxeter, Market Drayton, Stafford, etc., with his observatory hive of bees, wax, honey and sections.

It will be seen from the photograph that "Stallington Apiary" is being utilised by the county expert (Mr. Joseph Price) for the purpose of demonstrating in bee-keeping, and the occasion proved very successful.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Bee Legislation.

[10042] In your issue of November 13 you invite all who are opposed to this to state our views "free from all personalities and recriminations." As an active opponent of the proposed legislation in 1912 and 1913, I wish you to understand, first, that we are not going to waste time in thrashing a dead horse: second, that the B.B.J. and the B.B.K.A. must first put themselves "straight" before we have anything to do with them or anyone connected with them. There are too many *personal* matters to be made good, and if they don't care to make the "*amende honourable*" we shall have nothing whatever to do with them in any way. Whenever a fresh Bill is brought up before Parliament we shall then deal with it as we did with the 1913 Bill, which was *not*, as you say, "withdrawn after it had passed the second reading."

The failure of the B.B.J. and the officials of the B.B.K.A. to state the true facts in 1912 and 1913 was of the greatest assistance to us in our opposition. You invite us to deal with the matter "in a sporting spirit." I am accepting your invitation by pointing out how you injure your case by not keeping strictly to facts.

In 1912 we were taken by surprise. The Government gave notice of the second reading at quarter to four in the afternoon, and brought it in the same night, but even then, they were taken by surprise when they found that two Members were dead against it, and because we were threatening a serious opposition they withdrew it, hoping that by the next session we should have been reconciled; instead of this, they found we were stronger than ever, and, what is more, they found the House was dead against them, and they would have been defeated on the second reading, as we had put our case personally before every Member, and Mr. Runciman could not answer us, because he could get no data to do so from the B.B.K.A. or any of its officials, so he withdrew the Bill before being read a second time. If anything is ever presented, we are in a very much stronger position in every way.

I cannot conceive of any elected Parliament in this country ever passing a Bill to trample on people who cultivate bees as a business, and *successfully*, too, on the clamour of a lot of ignorant upstarts, who cannot see any faults in the books of Mr. T. W. Cowan, Mr. W. Herrod-Hempsall, or the No. 48 Food Production Leaflet. One might just as well expect the large body of small allotment cultivators asking the Government to pass a Bill dealing with and interfering with market gardeners.

When the B.B.J. and the B.B.K.A. acts up to its professions and straightens out their past sins, I shall be then tempted to say what I know to be facts to the benefit of all.—JOHN HEWITT, Bee Master, Sheffield.

We print the above just as received, not that it imparts any material facts to help towards the solution of the legislation which would be acceptable to bee-keepers generally, but to show the strange ideas possessed by one of the opponents of legislation.

We should have been quite justified in refusing to print this letter; as already stated, we are anxious that both sides should ventilate their views on *legislation*, but not on imaginary personal grievances, or yet to vent their spleen regarding the writings or views of other people, and similar irrelevant matter.

Needless to say, our correspondent's assertions are untruthful.

He suggests that *all* bee-keepers who are in favour of legislation are "a lot of ignorant upstarts." He seems to be of the opinion that the commercial and not the average bee-keeper is the only class endowed with intelligence and worthy of consideration.

We *know* that there are not half a dozen people in this country who depend entirely upon bee-keeping as a means of livelihood, and our correspondent is *not* included in the half dozen. Our conten-

tion is, and always has been, that the keeper of bees on a small scale, be he cottager or noble lord, is entitled to carry on this profitable adjunct to other pursuits untrammelled by the menace of the careless bee-possessor. The cottager's bees and their produce are quite as important to their owner as those of the well-to-do person, or the commercial bee-keeper.

Because it is impossible for a bee-keeper to choose his or her parent, and is so unfortunate, shall we say? as to be born in humble circumstances, it does not follow that he or she are "ignorant upstarts," as designated in the foregoing letter.

Intelligence is not a monopoly of the rich, or those with a 'Varsity training: nor yet the capabilities for good management the sole possession of the commercial bee-keeper. We have seen hundreds of the maligned cottage apiaries managed in such an admirable manner that in comparison with so-called commercial apiaries we have visited put the latter to shame.

With regard to the statement that Mr. Runciman could not obtain any data from the B.B.K.A. we say from certain knowledge that Mr. Runciman *did not ask* for any data from the Association. Had he done so, it would have been supplied. As already stated in our Editorial on page 502, Mr. Runciman was moved to bring in the Bill by the numerous requests for such a measure received from bee-keepers, and for no other reason; therefore, he had ample proof and data within his own department to justify his belief that the majority of bee-keepers in the country desired such legislation.

If the opponents of legislation can produce no better "arguments" than those advanced by our correspondent then their case is in a sorry condition.

[10043] In response to your invitation to discuss the need of legislation on bee diseases, I would like to supplement my remarks in THE BRITISH BEE JOURNAL of November 20. As I mentioned, I have seen glaring instances of the necessity for legislation of some kind. Whole districts practically useless for profitable bee-keeping, because one or two keepers of bees either could not, or would not, take the necessary measures, or allow others to take them for combating disease in a virulent form.

I am aware that some excellent bee-keepers were (and still are) opposed to legislation, but, as you remark, I think their opposition due more to misapprehension of the powers they supposed inspectors would have, than to legislation itself.

In my opinion, the extension or some modification of the Diseases of Animals Act to bee-keeping, making it compulsory to notify certain scheduled diseases, under a penalty for non-notification, would meet the case. This throws the onus of notification first on the bee-keeper himself, and if a £10 penalty was attached (as is the case for non-notification of black scab in potatoes) most careless bee-keepers, if unable to diagnose a case of infection themselves, would lose no time in getting advice from a better informed neighbour, or an expert. In such an event, or if a bee-keeper knew of cases of disease, and the owner neglected to report, it would be up to the second party to do so. This would not interfere with real bee-keepers, who know how to look after themselves, but would be a help in enabling them to trace the source of any infection that might perchance come their way. Any Bill dealing with the subject obviously would make it an offence at law to knowingly buy or sell diseased stock or infected hives and appliances.

If I remember rightly, Mr. Woodley, of Beedon, and Mr. C. B. Bartlett, of Witney (who at the time the last Bill was drafted had over one thousand stocks) strongly objected to legislation, their argument being based on the fear that inspectors would be appointed, who would be often fussing around opening hives, and generally making themselves an unmitigated nuisance, and incidentally spreading the disease they were meant to check, which, under those circumstances, careless ones would be liable to do. I have yet to learn that the inspectors appointed by the Board of Agriculture under the Diseases of Animals Act, or the experts sent to advise on diseases of food plants which are notifiable, make themselves nuisances; on the contrary, they are usually very helpful with suggestions.—D. J. HEMMING, Runcorn.

[10044] In response to your invitation in the Editorial of THE BRITISH BEE JOURNAL of the 13th inst. *re* Legislation.

My advocacy in favour of legislation, in order to protect the painstaking bee-keeper against his careless neighbour, has often been forcefully expressed through the columns of THE BEE JOURNAL in the past, and further experience has only strengthened my conviction of the need for such.

Nearly 12 months' experience in lecturing, and demonstrating in connection with the Government re-stocking scheme in the East Riding of Yorkshire, has brought to light the fact that bee-keepers realise the almost hopelessness of their position in the absence of some measure of Government protection.

Only one objector was met with, and

that one has not yet experienced the disheartening effects of "Isle of Wight" disease.

Many bee-keepers who have lost all their stocks hesitate to re-stock until some protection is afforded them. We are doing our part in urging such to start again, and for those who still retain their bees to take every possible precaution to avoid contamination. It remains for the Government on their part to support such efforts by legislative protection. A countryside almost denuded of bees is eloquent testimony to the need for such.—J. W. MASON.

[10045] I am pleased to see in issue of B.B.J., November 13, that "if the majority of bee-keepers are anxious to have legislation, we are prepared to back them to the utmost of our power." I have all along been strongly in favour of legislation for bee diseases, as it is quite obvious that if there was no legislation to deal with swine fever, foot-and-mouth disease, etc., those live-stock industries would be in a hopeless state. My bees have been swept out with "Isle of Wight" disease. When eventually I restocked with bees which were withstanding the disease very well, and thought I had cleared it out by a thorough disinfecting of everything, this is what happened: A "fellow bee-keeper" brought several diseased stocks of bees on to land which he hires, and planted them within a very few yards of my apiary. I was in the Army at the time, but my brother informed me that these bees in the adjoining field were crawling about in thousands. Needless to say, my bees very shortly afterwards contracted the disease, and I was again cleared out of bees. You can make what use you wish of this letter and my name. I hope the Government will soon "get a move on" and pass a Bill for dealing with bee diseases. —THOS. H. CORNEY.

[10046] As a bee-keeper (and master) for over 50 years, permit me to say that I view with regret the thought that the Government has any idea of imposing legislation on bee-keepers; though in the winter of 1916 I suffered the loss of all my bees (nine stocks) from "Isle of Wight" disease. I would much rather risk having another visit than allow an inspector to come and open my hives whether I would allow it or not, a much greater risk, in my opinion, of disease than would obtain otherwise. Mine are all frame-hives, and all modern requisites are in use.—ALFRED J. CLARKE, Longwood House, Oxford.

"Tanging" Bees.

[10047] I have to thank many of your readers, whose letters I may not in every case be able to acknowledge personally, for their kind replies to my recent letter in your Journal.

Some of my correspondents advise that they believe the custom in their district is for the purpose of giving public notice and claiming the ownership of the swarm.

I shall be glad of more information in this respect, and also as to the custom of "tanging" in Cornwall, Wales and Ireland, as the information I have received from these districts is scanty.

Can any of your readers further oblige me?—N. F. ROBERTS, 23, Oliver Grove, South Norwood, S.E.25.

Errata.

In "Notes from the West" on page 520 of last week's Journal, reference is made to "Useful Hints" in the issue of August 8. The date should have been written August 28.—T. ALUN JONES, Halkyn.

GLOUCESTERSHIRE B.K.A.

In account of Honey Show in JOURNAL, "four" should read "our" in line 21, and under prize-winners in Section 5, Dr. Whittery should be Dr. Whitley.

Re-Print of Articles by "Lordswood."

Philosophy.

BY "LORDSWOOD."

I wonder if, considered from a physiological point of view, treacle roll-up pudding, with one of its ingredients—suet—of such a size as to be half an inch in diameter, together with leathery beef's heart, contains just the proper percentage of nitrogen, etc., calculated to make an English boy grow in grace and stature and other desirable qualities?

In my happy schooldays, the headmaster or his good lady evidently thought so, for they had contracts running with several of the principal butchers of the town for the above-named hearts and suet, and with the adjacent grocers for boiled rice. Some of the boys (those who were weak and had been tenderly reared like hot-house flowers) utterly failed to appreciate the physiological reasons why they should take nutriment in that form. They would sooner receive six strokes of the cane across a young and tender palm. Most of the boys—happily, ever-hungry John Bull boys—swallowed what they

could and put the rest in their pockets. What a study were the faces of the boys at those dinners! Morose despair, heroic determination, fierce struggles to keep what you had consumed in its proper place! If only the heart had not been so "gamey"! and the treacle more evenly distributed over the whole pudding! As it was, the treacle was all concentrated in the middle—absolutely none towards the ends—and somehow, by some strange problem of mathematics, one of those ends always came to me!

Looked at calmly, without sentiment or any glossing over, is it possible to imagine anything more dreary and desolate, to bicyclists, to bee-keepers, to botanists, to everyone, than a winter such as this? Rain, rain, rain, bitter cold rain and sleet, day by day and month by month, till every green thing—the very grass itself—is killed and rotting away; while the streets are rivers of mud, and the brooks have overflowed their banks and are half a mile wide, and the frosts put the autumn-planted daisies and violas on the rack and tears them limb from limb! No matter how carefully painted, how neatly covered with zinc, my hives are saturated with moisture. The air, loaded with vapour, wraps them in a wet blanket continually, so that inside the hive beads of water cling to the sides and occasionally trickle down on to the quilts. The beds of the poor bees thus being damp, it will surprise me if they are not soon suffering with asthma, bronchitis, and rheumatism, so that I will have to buy them bottles of Mother Siegel's Syrup, which has the advantage of curing all the above diseases, and many more.

On the eighth day of the new year it rained all day—the wind lashing in from the north. Towards night and throughout the night it was sleet, which finally in the early morning turned to snow. Yesterday it snowed slightly all day, but at night it came on thickly, and this morning we awoke to a white, silent, weary world—the snow was a foot deep! It had drifted half-way up the windows and came down in baby avalanches from the roof. It had blocked the hive entrances and stood ready on plinth and porch to further bath the poor infirm inmates. It had bent down and buried the brown fern fronds and loaded itself into the pine's magnificent crest; the holly berries gleamed ruddy as they veered over, but the white berries of mistletoe in apple boughs, along Worcestershire lanes, were dingier for the contrast. Why does the snow bring such a deep silence over the landscape, seeming to muffle every sound—except two? Would to heaven it would muffle those—the Salvation Army and that old cracked (the bell, not the church) church bell.

This morning deep snow, and now, to-night, it has nearly gone! To-day greenhouse temperature, to-night another vapour bath, and very likely in the morning a summer's day. On Tuesday we will play lawn tennis, and on Saturday we will skate! And so we go on bearing and enduring and saying to one another, "Isn't it seasonable weather?" "*Good* morning," when it is dreadful *bad!* "Won't the snow do the ground a lot of good?" etc., etc. And yet we know all the while that the richest land of all is where snow is never seen—nothing but the fierce heat of the sun and deluges of warm rain, together with decaying tropical vegetation!

Still, after all, our schooldays were the happiest days of our lives, or we will ever continue to swear by them, even as Mike will swear by "Ould Oireland," or a Scotsman get excited over his dreary moors, or I myself throw the gauntlet to the world and say, "Where else are there woods like Worcestershire woods, or meadows like these?" Do you say "In Cheshire," Mr. Junr. Editor? Stuff and rubbish! Don't tell me!

"The shuddering tenant of the frigid zone
Boldly proclaims that happy spot his own;
Extols the treasures of his stormy seas,
And his long nights of revelry and ease.
The naked negro, panting at the line,
Boasts of his golden sands and palmy wine,
Basks in the glare or stems the tepid wave,
And thanks the gods for all the good they gave."—GOLDSMITH.

[The above is from the B.B.J., January 14, 1897.—EDS.]

Echinops Sphœrocephalus.

Don't be afraid! It is not a new disease of bees. It is simply the Chapman honey plant or globe thistle. The generic name means "like a hedgehog." The specific or Christian (?) name (sphœrocephalus) means round-headed. Yet, for all that, you must not read it "round-headed like a hedgehog!"

I used to grow this plant years before it was brought to the special notice of bee-keepers—having begged seed of it from a botanic garden. Very handsome it is on an August day, with its bold, green, and tomentose foliage and stalwart stems branching above you against the horizon wall; but lovelier still, I think, when seen in the stillness that comes with dusk, or under the soft radiance of the moon, when the hedgehog-like heads are moved mysteriously by fiery-eyed revellers at the

midnight feast, and when the moon hides the daggers that lurk among the leaves.

"The sun goes down, and with him takes
the coarseness of my poor attire;
The fair moon mounts, and aye the flame
of gipsy beauty blazes higher."

There are a dozen or more species of globe thistle, natives of Europe. Two that are dwarf—about 2 ft. high—true perennials, and very handsome in the garden, or in a dry state, in vases for winter decoration, are Echinops ruthenicus from South Russia and E. ritro from the countries bordering the Mediterranean. They have lovely metallic-blue heads, and for decorative purposes should be gathered before the florets open. The grey heads of *our* globe-thistle are also worthy of being used for the same purpose.

Our globe-thistle is a biennial, but sometimes will live three or more years. In cold districts it is useless to expect it to flower the same year that the seed is sown. The best plan is to sow in April where the plant is to remain, the seedlings to be thinned out quite 4 ft. apart. It will then make huge plants the first year and flower the year after.

You should present seeds to all your gardening friends, but be careful to call it the Chapman honey plant, for if you call it the globe-thistle they will probably forget to sow the seed; or, when you meet them next and enquire how the plants are progressing, they will say, "Oh, they came up all right, and then a worm got at the roots and killed them." People don't care about thistles, not even globe-thistles, in the garden! Some years ago I gave seeds to a friend who dotes on dahlias and French marigolds. Now, when I go along the road, he elevates the tip of his nose and pretends not to know me! On one round-head you may sometimes count as many as ten bees—mostly humble bees. They frequently stay there all night, and if you touch one he puts out his arm and says, "Go waysh. I'm all (hic) risch. Lesh 'ave 'nuther boshle!"
—LORDSWOOD.

Combs from Other Hives.

Bees and Flower Fertilisation.

THE CASE OF BEANS AND PEAS.

By W. H. Taylor, Horticulturist.

The following notes are written with the idea of elucidating certain questions which have been under discussion for some time past, such as, "What perforates the flowers of broad beans?" "Why do runner-beans fail to set beans on the first flowers?" "Do bees cross-fertilise peas?" The authority used by the writer in dealing with these questions is Darwin, in his book "Cross and Self-Fertilisation of Plants."

Regarding holes in the corolla of flowers, Darwin states that in England these are always made by humble bees, but that hive bees invariably avail themselves of the holes and rarely visit in the proper manner flowers that have been perforated by humble bees. By the possession of powerful mandibles humble bees are particularly well equipped for making the holes; their object is to obtain the nectar quicker than by entering the flowers, thus enabling them to visit a large number of flowers. My own observations convince me that there is sometimes another reason. I have taken advantage of every opportunity that has offered this summer to watch the movements of humble bees on plants in my garden. The first noticed were small black specimens, probably "Bombus ruderatus," a considerable number of which were at work on antirrhiniums. The bees without exception alighted on the lower limb of a flower, and by their weight and movements depressed and opened it; they then entered the mouth of the flower, forcing their way right in so as to reach the nectar. Later on the black bees disappeared, and greater numbers of the large banded bee, "Bombus terrestris," appeared. Not one of these visited the mouth of a flower, but gnawed holes in the corolla just above the nectary. In the course of a few days it was only by close search that flowers could be found without a hole in the corolla; usually there were two holes, one on each side of the rib that runs down the lower limb of the corolla. In this case I conclude that the insects knew they could not reach the nectar in the proper manner. They undoubtedly were too large to enter a flower.

RUNNER BEANS.

Darwin states that the flower of runner beans (Phaseolus multiflorus) is entirely self-fertilising, and yet, though such is the case, it is quite incapable of fertilisation without the aid of insects, the fertilising organs being in a spirally wound keel, from which they must be released to effect pollination. Bees visit the flowers continually. They alight on the left wing-petal, as they can best suck the nectar from this side. Their weight and movements depress the petal; this causes the stigma to protrude from the spirally wound keel, and a brush of hairs pushes the pollen before it. The pollen adheres to the head or proboscis of the bee which is at work, and is thus placed on the stigma of the same flower or is carried to another

flower. That this plant is self-fertile was proved by Darwin and others, who found that when plants were covered so as to exclude insects only very rarely was a bean formed, yet by moving the wing-petals with a pin fertilisation took place and beans formed.

It will thus be seen that beans cannot be formed unless the flowers are visited by bees or some other insect sufficiently powerful to depress the wing-petals. The bees are, of course, quite unaware of the presence of the flowers until they see them. Bees do not detect flowers until a considerable number have expanded, presumably because they are not sufficiently conspicuous to attract their attention. The bees may not observe the first flowers on runner beans, as they are near the ground, and to some extent concealed by the foliage. But they soon detect and visit them when many flowers are out, and at once beans are formed. This clearly explains why the first flowers fail to set beans. If bees perforated the corollas instead of visiting the flowers in the proper manner no beans would be formed, because the necessary movement of the wing-petals would not occur.

BROAD BEANS.

Although not quite sure on this point, I believe the agency of bees is necessary to secure fertilisation of broad beans ("Faba vulgaris"). If that is the case, the reason why the perforated flowers fail to set beans is explained. It is the first flowers usually that are found perforated, and the question arises, Why is it? The explanation is quite simple. I have previously mentioned my observations regarding antirrhinums and how they were constantly visited by humble bees. About the middle of March in my garden a plant known as "blue spiræa" ("Caryopteris mastocanthus") began to open flowers. The bees soon found it, and after a day or two had abandoned the antirrhinums and concentrated their attention on the caryopteris. I counted as many as twenty-four large banded humble bees on the plant at one time. Since that time, so far as I have seen, not a single bee has visited the antirrhinums, which is not strange, as bees always confine their attention to one species while they can, and evidently the nectar of the caryopteris (natural order Verbenaceae) is preferred to that of the antirrhinum (natural order Scrophulariaceae).

The first flowers on an early crop of broad beans open at a time when flowers of any kind are scarce, and the humble bees make use of them. Later on, when more flowers of the beans have expanded, there are also many other flowers out, and the bees probably abandon the beans in favour of something more to their liking. So that an observer may watch in vain for more visitations by humble bees on beans.

DWARF BEANS.

The flowers of dwarf beans ("Phaseolus vulgaris") are entirely self-fertile without the aid of insects, as is abundantly proved by their being grown in greenhouses where bees are not present. Yet they are capable of cross-fertilisation by bees, and it undoubtedly occurs. The extent of cross-fertilisation is not, however, great, and different varieties grown in close proximity will remain fairly pure, but not entirely so.

GARDEN PEAS.

The flowers of garden peas ("Pisum sativum") are entirely self-fertile, and usually behave as though cleistogamic (uncrossable), which they certainly are not. Fertilisation is effected before the flowers open, and this precludes the possibility of crossing by wind-borne pollen. Notwithstanding these statements—and there is abundant proof that they are true—the flowers are obviously adapted to cross-fertilisation. Darwin observes that it is remarkable that they are not often crossed, yet it only very rarely happens. He mentions cases of varieties that have remained pure for sixty years, though each year several varieties were grown together. Hive-bees can have no effect on the fertilisation of these flowers, as they are not heavy enough to open them, consequently they cannot gather pollen from them except from old and already fertilised flowers, which they sometimes do, but not to any great extent. For my own part, I have frequently watched my garden peas this season, and have not seen a bee on them. Darwin states that he had peas under observation for thirty years, and only thrice during that period did he see bees of the proper kind at work. These were "Bombus muscarum," a humble bee. These, he is sure, must have crossed some flowers.

SWEET PEAS.

The flowers of the sweet pea ("Lathyrus odoratus") are entirely self-fertile, and can rarely be crossed by insects and never by wind-borne pollen. I have examined a large number of flowers and proved that fertilisation takes place long before the flowers open. However young a flower may be, a pod will be found in it, and the smallest pod I could divide with a sharp knife exhibited peas quite distinctly.

BEES AND SEED-GROWING.

It has previously been stated that bees confine their attention as long as possible to one species. It is also known that when

gathering pollen bees will not wander far if they can get their load near by. The knowledge of these facts, and, further, that different orders of plants will not cross, guides seed-growers in planning their plots. All the different species of brassica, which include cabbages, cauliflowers, etc., will cross each other. The seed-grower plans his field so that no two varieties of the same species are close to each other. But this would not ensure safety from crossing unless a considerable number of plants of each variety were grown, for bees will fly quite a considerable distance in search of flowers of a species. Safety is found in growing a good block of each variety. The bees then load up from the one block, and the risks of crossing are very small.—*N.Z. Journal of Agriculture*, 21/4/19.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

Queen Leaving Hive.

[9898] Can you explain the following occurrence: On October 11, at 1 p.m., I was watching a hive of bees flying strong and loaded with pollen. The sun was warm, and the queen came out on to the landing board, and then ran up the porch, came down again on to the board for about half a minute, and then took flight for about one minute, when she returned. The workers took no notice of her, but were working all the time. The queen is fertile and laying at the time. I am not a novice, so there is no mistake of it being a virgin.—G. A. Graham.

Reply.—We cannot explain why the queen should come out. We should be pleased to hear if any other bee-keeper has noticed a like occurrence. We have heard of the queen flying at times, and we think a queen does sometimes fly from the hive without being accompanied by a swarm, but more observation is needed to determine the matter. If queens do fly, the loss of a new queen a week or more after she has been safely introduced and commenced to lay may be accounted for

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

C. B. Lindsay (Surrey).—*Making Soft Candy.*—We have given the recipe for this a number of times, and it may also be found in "The British Bee-Keepers' Guide Book," "Bee-keeping Simplified," and other text-books. Briefly, it is as follows:—Put 3lbs. sugar into half pint of hot water in a clean pan; add as much cream of tartar as can be heaped on a sixpenny bit. Stand beside the fire, stirring occasionally until the sugar is all dissolved. Then place on the fire and stir until it boils. Boil for about two minutes, and then test by dropping a little into a cup of cold water. If it can be rolled into a ball, like putty, between the fingers it is cooked enough; if too soft, boil a little longer. When cooked remove from the fire, and allow to stand *without stirring* until it is cool enough to just bear the finger in it, then stir until it becomes white and will just run. Pour into boxes or saucers lined with paper.

J. C. (Wigtownshire).—*Effect of a Fertile Worker.*—As a fertile worker can only lay drone eggs, the colony will gradually dwindle in the spring. We are afraid it will be a very difficult matter to get the bees to accept a fertile queen if a laying worker is present. The latter cannot, as a rule, be distinguished from an ordinary worker. The best thing to do in the spring will be to unite the bees to a colony having a fertile queen.

Merchant (Berks).—*Bees and Spraying Fruit Trees.*—Spraying fruit trees is only likely to harm bees if done when the trees are in bloom, and no fruit-grower in his senses will do that nowadays, as it does more harm than good

C. A. Butler (Pem.).—*Granulation of Honey.*—This may be hastened by exposing the honey to daylight (not sunlight), and to variation of temperature. If a little granulated honey is mixed with it, the whole mass will usually granulate in a very short time. Heating will retard granulation. The most effective method is to expose the honey to sunlight for several hours, and the best results will be obtained if the honey is put in shallow tins under a skylight, or in a Solar wax extractor.

Novice (Stockport).—It is not usual for *young* bees to come out of the hive and die. If they get on the ground they probably become chilled. We have, at present, no information *re* sugar for spring feeding.

H. Lowther (Shap).—Any ironmonger should be able to supply the wire cloth. We do not know any firm who make a speciality of it.

N. F. Roberts (S. Norwood).—The bees may be moved any time, when they have been confined to the hive for, say, a fortnight by cold weather. Get assistance and carry the bees by hand so that jolting is avoided.

Honey Sample.

B. E. Clarke (E.15).—The honey was very good. Mainly from the lime trees. Flavour is very nice

Suspected Disease.

H. G. (Winchfield), Tin Hat (Ludlow), Mrs. Chambers (Walton), F. C. Wray (Herts), Heather (Darwin), A. B. C. (Birmingham), F. G. Street (S.W.).—We do not think the bees are diseased. There is always a certain amount of mortality among the old bees during the winter.

E. M. J. (Hants).—The trouble is "Isle of Wight" disease We should say they are Dutch.

Special Prepaid Advertisements

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

A FEW GOOD SECTIONS, glazed, for Sale at 48s. per dozen, carriage forward; half dozens supplied same price.—Box 55, BRITISH BEE JOURNAL Office, 23, Bedford Street, London, W.C.2. w.40

SIX STOCKS in skeps; apiary never had disease; price from 32s. 6d. to 80s., according to weight.—Box 54, B.B.J. Office, 23, Bedford Street, Strand, W.C.2 w.41

STRONG STOCKS of Hybrid Italian Bees for Sale, £3 10s. per stock; also W.B.C. Hives, in good condition, £1 10s. each. Inspection invited. Purchasers must remove. Terms cash.—Apply, COLONEL HARLOW, Remount Depot, Woolwich, S.E.18. rw.42

APPLES, direct from my orchard, 2d. to 7d. per lb. Special price for large quantities. Stamp for lists.—STEEL, Spring Gardens, West Ashling, Chichester. rw.43

FOUR 20 lbs. Light English Honey, screw-cap bottles, divide, 2s. per lb. and carriage.—ALFD. WILLMOTT, Apiarist, High Street, Higham Ferrers. w.44

FOR SALE, 2½ dozen of Sections of Honey, some glazed.—A. WARREN, Simpson, Bletchley. w.45

WANTED, offers for three dozen 1-lb. Sections, also two dozen from 14 oz. to just under 1 lb.—CHALLIS, Borough Green, Newmarket, Cambs. w.46

FIRST-GRADE SECTIONS, also case 500 new Sections flat.—NORTH, Cressing, Braintree, Essex. w.47

WANTED, Hives (W.B.C.), Brood Boxes, and other bee appliances for cash, or exchange Cypher's Incubator in new condition.—JOHN GRAY, Benhall, Saxmundham, Suffolk. w.48

FINEST FRUIT HONEY in 7-lb., 14-lb., 28-lb., 56-lb. tins; also Sections.—Write, CRAWFORD, Apiaries, Castlederg, Co. Tyrone. rw.49

WANTED, for Central America, a Bee Expert with experience in the rearing of queen bees. Single man preferred.—Apply, by letter, to "Bees," c/o ABBOTT'S, 32, Eastcheap, E.C.3. w.51

CORRESPONDENCE Course in Bee-keeping.—MISS F. E. PALING, Golden Square, Henfield, Sussex. rw.31

THE GRAMOPHONE RECORD EXCHANGE will exchange Records 5d. each, not less than six, return postage free.—6, Rood Lane, E.C. Particulars stamp. rw.36

PURE light Cambridgeshire Honey, 14-lb. tins, 22s. 6d.; 28-lb. tins, 42s.; tins free; sample 4d.—J. YOUNGER, 6, Maid's Causeway, Cambridge. w.25

WILL all those bee-keepers possessing 25 stocks of bees and upwards kindly send particulars to SECRETARY, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.? v.42

WILL all those who are not in favour of legislation please communicate with Box 48, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. v.28

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

ARMY WATERPROOF GROUND SHEETS, 72 by 36, brass eyelets, two for 5s. 6d., four for 10s.; also some suitable covering outhouses, motor sheds, etc., 15s. per dozen.—SAGAR'S STORES, 69, Hyde Road, Ardwick. w.30

LARGER FRAMES.—Please state requirements and ask for price.—BURTT, Manufacturer, Gloucester. w.38

ITALIAN QUEENS direct from Italy. Price list for 1920 on application.—Address, E. PENNA, Bologna, Italy. w.39

"LET THE BEES TELL YOU!"—The Middlesex Hospital needs help—hard cash. We propose to offer for sale 1,000 copies of the above booklet at 2s. per copy, and to give all profits to the hospital. Are you with us?—S. H. SMITH, 30, Maid's Causeway, Cambridge. w.50

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

Books for Bee-keepers

NOW IN STOCK.

		Postage
Bee-keeping (DR. E. F. PHILLIPS)	10/6	... 6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	... 1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	... 1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	... 3d.
Dissectible Model of Queen Bee	4/6	... 3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	... 1d.
Honey and Health (A. HOPE) ...	-/6	... 1d.
Honey Vinegar (REV. G. BANCKS)	-/2	... 1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	... 6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	... 2d.
Productive Bee-Keeping (PELLETT)	10/6	... 6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.) ...	2/-	... 3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	... 2d.
Snelgrove's Method of Re-Queening	-/6	... 1d.
The "Townsend" Bee Book ...	2/6	... 2d.
WAX CRAFT (T. W. COWAN) ...	2/-	... 2½d.
Wilke's Book on Swarming ...	1/-	... 1½d.
MISCELLANEOUS.		
Maeterlinck's Life of the Bee	3/6	... 3d.
The Lore of the Honey Bee (TICKNER EDWARDES)	2/-	... 2d.
The Humble Bee (F. W. L. SLADEN)	12/6	... 6d.

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

Criticism.

The *American Bee Journal* for November contains a most striking editorial on the value of criticism, which, when truly constructive, is a priceless help, although the critic's reward is generally anything but appreciation. His arduous task is usually a thankless one also.

Our esteemed contemporary says:—"We do not wish to be considered infallible in experience, in theory, or in practice. If we did, we would surely make a failure of what we undertake. We live and learn from day to day, and our true friend is the man who shows us a better implement than the one we use or a better method to keep our bees, to winter them, to prepare them for the honey crop, or to dispose of that crop."

Such has always been our principle, and we still adhere to it. If we have not been able to comply with some of the suggestions advanced to us from time to time, it is merely because hardly any of our friends appreciates our difficulties. It is neither useful nor in the economical interests of our readers for us to run a weekly journal on similar lines to a monthly magazine.

Again, we have never hesitated to publish views which are absolutely divergent from our own, nor have we refrained, for the sake of an open platform, from giving full publicity even to quite unfounded allegations against us, so long as we are sure of the good faith of the writers. The recent allegation, namely, that we are opposed to a large, deep frame, just because we have to consider the interests of the overwhelming majority of bee-keepers, for whose benefit the present standard must be maintained and a deeper standard, which is otherwise identical with the present one, be introduced if desired, will be remembered by our readers.

In fact, we have been criticised by some of our friends that we have adopted the principle of an open platform to an extreme, and that we have permitted in the past the appearance of communications that should not have appeared. We do not claim to be infallible, and we do profit by our mistakes. Suffice for us to say that we do our utmost to maintain and even to improve the standard of the JOURNAL, and to keep its pages free from abusive duels and the manœuvres of petty jealousies.

We have always appreciated helpful criticism, and we welcome more and more of it. We consider our constructive critics our best friends. We do not ungratefully libel them as unfriendly "opponents," and so find an excuse for opposing or ignoring them instead of rewarding them by tangible appreciation. Only communications of personal character, of abusive nature, or otherwise, from people who are decent enough to invent the most cruel accusations against us and yet assume that they have a moral right to utilise our literary and publicity media—such communications alone will not find a place in the JOURNAL, whilst we understand the meaning of self-respect.

Notice.

Will all Secretaries of Associations and also individual bee-keepers who kindly undertook to get signatures to the Petition for Legislation please get these completed and returned to the Secretary, British Bee-keepers' Association, as early as possible.

British Bee-Keepers' Association.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on Thursday, November 20, 1919.

Mr. T. Bevan presided, and there were also present: Miss M. D. Sillar, Messrs. G. Bryden, G. S. Faunch, G. R. Alder, G. W. Judge, J. Herrod-Hempsall, F. W. Harper, J. B. Lamb; Association representatives, R .R. Babbage (Middlesex), G. Thomas (Gloucester), E. Ff. Ball (Bucks.), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Messrs. T. W. Cowan, W. F. Reid, A. G. Pugh, F. W. Watts, and W. H. Simms.

The Secretary reported that Mr. A. G. Pugh had been very ill, but was slowly recovering, and that Mr. J. Smallwood had that day gone through a very serious operation. He had a few minutes previously ascertained that he had come through the ordeal quite safely, and was, in the words of the nurse, quite comfortable. The Council passed a vote of sympathy with both gentlemen, and instructed the Secretary to forward the same, with the wish that they would soon be fully recovered.

The following new members were elected:—Mrs. C. Sherring, Mrs. M. J. Rutter, Mrs. Jewitt, Lieut. W. A. Thompson, Messrs. E. Vali, G. F. Jones, R. Paget, A. C. Paulin, E. T. Williams, H.

Biggs, C. Page, J. Newton, H. E. A. Digby, J. Allbon, G. L. Foster, S. F. P. Pollitt, and T. Wadhams. Life members: Dr. A. Z. Abushady and Adminson, Ltd., Benson (Oxfordshire).

The Durham Association applied for affiliation, and were accepted.

The report of the Finance Committee was presented by the Secretary, who stated that the receipts for October were £10 17s. 3d., and the bank balance on November 1 was £75 0s. 1d.

The Secretary was instructed to arrange for insurance against damage done by bee stings on the same terms as last year.

Letters were read from the Royal Agricultural Society re next year's show, from the Bucks Association re sugar for spring feeding, and the Secretary was instructed to deal with same.

A letter from the Bishop's Stortford Branch of the Herts Association, re O.R. rates on honey by rail, to be held over to next meeting for further information.

Next meeting of Council: December 18, 1919, at 23, Bedford Street, Strand, London, W.C.2.

Jottings from Huntingdonshire

Bees have often been the cause of friction between lovers. One has heard how a young gentleman of some standing lost his prospective bride through his delight in bees. Her antipathy to bees was great, and she concluded that her would-be husband would dispense with his nectar gatherers out of regard for her feelings. He, however, showed not desire to send his bees to oblivion, or even to another enthusiast. The lady at last, concluding her beau had not sufficient affection for herself to enable him to respect her fear of the honey fly, told him that he must choose between keeping his bees and losing her. He, on his part, concluded that if his fiancee's affection was what it should be, it would be great enough to take him and his hobby, and so they drifted apart. I have another story to tell. My readers must cast their minds back to early Georgian days, when the stage coach rumbled along the high roads of England, and long before the inhabitants of the countryside held heated meetings to protest against railways being laid through their peaceful villages. The smoke of the engines was going to blacken the landscape for miles around, and the sparks would set fire to fields of hay and acres of corn, and, besides all this, sheep and cattle and horses would be frightened to death, or be driven mad by the uncanny sight of trains rushing to and fro. There were many manor houses in those days; practically every parish boasted a manor house. And so it came to pass that, in the village of L——, the daughter of the Lord of the Manor was of singular charm and beauty. In the same village was the son of a yeoman farmer. It was in church one Sunday that he first fell in love with the fair lady, to whom he had never spoken, and to whom he was never likely to get an introduction. So overcome was he by her beauty, and the strength of character shown in her face, that he felt impelled to change his pew, so that he might sit from where the squire's seat was not visible. He could not trust his eyes to feast upon her, feeling the seeming impossibility of ever even knowing her, and at least convinced, did they ever meet, he could not dare to open his heart, for was it not known that the son of Sir John —— and she were often seen in each other's company? Pulling himself together, he determined to put her out of his mind (easier said than done), and threw himself into his work with greater zeal.

One day he caught sight of an upholstering bee, busy excavating a hole in a bank where she might make her nest. He watched this persevering insect day by day, and was more than interested in her work when she commenced leaf-cutting, which she did so quickly and cleverly that he marvelled at her ingenuity. Later he carefully opened out the hole, and, discovering the cylindrical nest, took it home and showed his discovery. This began a collection of solitary bees' nests; the tapestry bee, the carpenter bee, the common bumble and the moss carding bees, all yielded up their nests to his collection. The mason bees' hard, rocky home resisted him for a time, but ultimately he succeeded in detaching one, and so his collection grew. As time went one he added specimens of the different bees to his collection. Queens, small females, males and workers were all there, and his knowledge of the many wild bees soon became extensive. Every person who called had to see his collection and listen to a charming account of the different bees' habits and life, and soon he was talked about as being something of an expert in this way. Now it happened that the Squire's daughter was an enthusiastic naturalist. Hating the time she, with her family, spent in town, and the shallow lives and talks of so many people in her station of life, she always longed for the days when she could return to the country for spring and summer. One day she startled her father by declaring that she wouldn't leave the country in the following winter, she missed so much; the birds of passage, the collection of rooks and starlings, the immigration of the field fares, the return

of the thrushes, the bursting of the snowdrops, aconites and winter violets. Her enthusiasm for nature became infectious, and her father began to learn from his daughter that some plants attract insects, others repel them. That tree buds are protected from frost by leathery bracts; those of the mountain ash being lined with a substance like cotton wool, and so on. Out visiting one day, the Squire heard of the collection of bees and bee nests young —— had got together. On returning home he apprised his daughter, who immediately asked to be taken to see it. To be brief, the Squire took his daughter, who was both entertained and delighted to know that there was another person in the village who was in love with Nature. She paid frequent visits to the farmer's home, and heard the fascinating story of the various bees and their economies. Kindred spirits, their friendship ripened; he was already in love, and she became conscious of the fact that she could not be happy with any other man than this yeoman farmer's son. His devotion to Nature, as it always does, enlarged his mind and refined his soul. There was no proposal; they grew so attached to each other that separation seemed impossible, and intuitively they began to talk of marriage. He approached papa with fear and trembling, expecting anger and refusal; but, to his surprise, the Lord of the Manor said his daughter's happiness was his, and he would never forgive himself if he separated two hearts that were meant to be one. Ma was indignant for a while, but ultimately gave way, and so the wedding took place, which began half a century of elevating happiness.

The above romance was due primarily to a solitary bee. Have the hive bees been the origin of any happy marriages? Has the love of Dutch, Italian, Native, British black, Tunisian, Syrian or Egyptian bee yet brought two hearts together? I wonder.

E. F. Hemming.

Steeple Gidding.

Sub-Jottings.

If I have a horse and he becomes affected with mange, must I report it?—Yes, or pay a heavy fine.

If I have a cow suspected of anthrax, must I report it?—Yes, otherwise a penalty of £20.

If I own pigs, and swine-fever seizes one, must I report it?—Yes, or go to Court, and pay fines and costs.

If I keep a few sheep and they show symptoms of foot-and-mouth disease, must I report?—Yes, or be proceeded against.

If I keep bees, and signs of "I.O.W." disease or foul brood show themselves, must I report it?—No, let them go on and infect the neighbourhood, and when they die leave your hives about for healthy bees to visit. You've nothing to fear, just fold your arms and smile.

E. F. H.

Bee-Keepers' Association for Guildford and District.

It is proposed to try and establish an Association in the above-named district, as will be seen from our advertisement column. We are always pleased to see an attempt, however small, to get bee-keepers to come together for mutual help and improvement. It would be all to the good if there was a bee club in every village, even if it only consisted of a couple of members. We trust a hearty response will be made to the appeal, and that a vigorous and helpful association will be formed.

Bee-Keeping Exhibit at the British Science & Key Industries at Glasgow

In reference to our notes on the West of Scotland Agricultural College last week, the following cutting from the *Glasgow Herald* will be of interest. The bee-keeping section is part of the exhibit of the West of Scotland Agricultural College:—

"In the bee-keeping section the exhibits include a collection of 100 lbs. of honey gathered from various sources, illustrating the value of following scientific prescription in the interests of cleanliness and attractiveness. None of the honey in the collection has at any stage in its removal from the hive to the glass jar in which it reaches the consumer ever been touched by hand. The producer cannot fail to learn from the display, and the accompanying information which the College representative is ever ready to give, many important tips in the matter of making up the honey for market in most appetising form. An analysis is given, for the benefit of the bee-keeper who wishes to understand his work, of the proportions of nectar and of pollen which the bee derives from the various flowers, and of the respective values of these flowers in the production of good honey. Microscopic slides are shown of actual pollen grains extracted from a number of flowers, and from various samples of honey, from which the test is obtained of the purest quality of honey, while the source of it can also be determined by examination of the pollen grain. An observatory hive showing a section of a normal colony of bees is a feature of the display, which will give

pause to the city visitor unacquainted with the housing schemes of the bee communities. The modern appliances which are used at Kilmarnock—where the College have an apiary consisting of 300 colonies of bees, the most up-to-date institution of its kind in Great Britain—are set out on the stand and their several uses explained by the attendant official. The College, it may be added, train on an average 60 students each year in their bee-keeping department."

Notes on Bees.

Bee-keeping is an employment that, when once commenced in real earnest, few get tired of. Enthusiasts in apiculture are the rule, not the exception. For why? Because it offers inducements that no other description of stock-keeping can give. At the commencement of my bee-keeping career, I have to confess with other bee-keepers who have given their experience in these columns from time to time, that I suffered from "bee-fever" along with them. In fact, my "Queen" used to exclaim, "Oh! those bees, you think more of them than you do of me." I suppose I was to be pitied. Well, after all, bee-keeping is an intellectual hobby. I should think the Rev. E. F. Hemming, Steeple Gidding, will derive many a brilliant thought for his flock from his bees, for they are fine examples of character. Bee-keeping is a science of itself. Take the queen, for instance. We have there a fine piece of organic structure; she is a perfectly developed female. Upon dissection we see a great difference from that of a worker bee; the two air sacs of the worker are here partially displaced by two large ovaries, joined up with two tubes, and communicating with a single tube. Here is the spermatheca, or receptacle for the spermatozoa from the male bee at the time of impregnation. Leuckart, one of our leading bee-scientists, calculated that the spermatheca of a queen bee is capable of holding 25,000,000 spermatozoa: and, as connection only takes place once in a queen's life-time, it would seem essential that there should be a receptacle to hold a sufficient quantity of the seminal fluid of the drone to fertilise the enormous number of eggs laid by the queen. The queen bee is one of those things in nature that can determine whether her progeny shall be male or female, and, according to Herr Von Siebold, this is accomplished by every egg which would produce a worker bee being dipped in spermatozoa. Failing this process of egg-dipping, only drones are produced, and this the queen has the power to determine.

If a queen is allowed to reach old age, she will produce drones only. This is accounted for by the fact that the spermatheca has been emptied of its contents. This learned writer found by microscopical examination that eggs laid in drone cells were devoid of spermatozoa, while others laid by the same fertilised queen in worker-cells were found to contain spermatozoa. All old failing queens should be killed off and replaced by young fertile queens. Of course, the workers will supersede her themselves, but this, if allowed, might take place when all drones are killed off, thus giving a young queen little chance of ever becoming fertilised. This supersession of the queen usually takes place before she has had the last of her fertilised eggs. How the workers are able to tell when this stage is reached I am at a loss to know, and I have never yet seen any account in bee-books of this knowledge. Perhaps some of your readers will enlighten us on this subject?—P. LYTHGOE, Padgate, Warrington, Lancashire.

Questions, etc., for Bee-keepers for Self-Examination.

(Students are recommended to write their answers, and check them afterwards by reference to books.)

409. At what temperature does beeswax change from the solid to the liquid state?

410. Describe an extractor and explain how it is used.

411. Why is it inadvisable to transfer into a frame hive combs obtained from a skep hive?

412. What can be done to liquefy honey granulated in frame combs or sections?

413. Which legs of a bee are used for the removal of its newly-made wax scales, and how?

414. Give particulars of the examination which should be made of a stock of bees in a skep when buying it.

415. What are the principal sources in this country of light-coloured honey?

416. How is warmth produced and maintained in a cluster of bees in a hive in winter?

417. What substances have been found used as adulterants of beeswax?

418. How may a colony of bees, with its honey, be removed from the hollow of a tree without destroying the tree?

419. What is known of the respiration of bees?

420. Make notes for a 15-minute lecture on "The Essential Features of an Efficient Hive."

J. L. B.

The Wiltshire (?) Case.

Some years ago, in Dublin, a gentleman had occasion to visit the Law Courts. He took a car and asked the jarvey to drive him to the "Courts of Justice." The man asked where they were. "Do you not know the Law Courts?" said his fare. "Oh! the *Law* Courts," said the driver. "Sure, why didn't you say so at first? Well, sir, the verdict the other day was good 'law,' no doubt, but there was no 'justice' about it. These laws must be changed, or we shall all be robbed."—R. B. MANLEY.

Glasgow and District Bee-Keepers' Association.

The first of a series of lectures arranged was given by the Rev. John Beveridge, B.D., Gartmore, in the Christian Institute, Glasgow, on November 20, his subject being, "Bee-Keeping Experiences in Town and Country."

His experiences of bee-keeping during the last twenty or thirty years were illustrated by some excellent lantern slides.

There was a large attendance of members and friends, who much appreciated his very interesting remarks on the characteristics and habits of bees. He gave many useful hints regarding the pleasures and profits of bee-keeping.

At the close of his lecture, many questions were asked by the audience, and the answers given were much appreciated.

A cordial vote of thanks for his lecture was unanimously passed.

The second lecture of the series, entitled "The Bee and the Flower," will be given by Mr. Alec Steven, L.R.A.M., Glasgow, on December 16, commencing at 7.30 p.m., at the Christian Institute, Glasgow. This lecture also will be illustrated by lantern slides.

All interested are most cordially invited. —PETER BEBBINGTON, hon. secretary.

Doncaster and District Bee-Keepers Association.

On November 12 a lecture on Bees and Bee-keeping was given by the secretary, the Rev. G. H. Hewison, under the auspices of the Yorkshire Agricultural Council, and Leeds University. A fair company was present despite the bitter, dark night and treacherous roads.

The Chairman (Mr. J. A. Claxton, M.A.), in introducing the lecturer, explained that owing to the enormous amount of honey recently imported (£2,700,000 worth last year), and the falling off in fruit crops owing to the absence of bees, the Board of Agriculture had at length bestirred itself and inaugurated, through the medium of the County Agricultural Councils, a system of lectures to popularise bee-keeping, as well as a re-stocking scheme.

The lecturer traced the history of bee-keeping from the earliest known records, and writings, to the movable-comb hive, dwelling upon the one-time importance of bees-wax.

The slides included two wonderful micro-photographs, one of the bee's foot, showing its "grease pads," and one of the wings, in which the "hooks" looked like thorns; others of particular interest were the interior of the bee; a comb built upwards, showing the "angle" at the lower instead of the upper edge of the cell; queen cells at various stages of growth; combs showing eggs and larvæ of different ages; and last, but not least, the lecturer picking a queen off a comb.

In thanking the lecturer, the chairman congratulated him upon passing the final examination of the B.B.K.A., and thus obtaining an expert's certificate.

After the lecture an aluminium American comb was passed round for inspection, and also a miniature mating box made by the lecturer.

It was announced that at the next meeting of the Association, November 29, a demonstration of candy-making would be given by a Sheffield expert, and later a demonstration of wax-rendering by Mr. Garwell, of Sheffield.—(*Communicated.*)

Honey at the Barnstaple Great Show.

The honey section, though small, was very pleasing, there being 35 entries in the three classes provided.

The awards were as follows:—Light honey (16 entries): 1st prize and special, F. W. Northcombe; 2nd, A. E. Warren; 3rd and v.h.c., E. Tattersall Williams.

Other than light (8 entries): 1st, J. H. Pearce; 2nd, F. W. Northcombe; 3rd, E. A. Smyth; v.h.c., A. F. Knight and C. J. B. Houle.

Sections (11 entries): 1st, F. W. Northcombe; 2nd, Miss Thorn; 3rd, J. H. Pearce; v.h.c., Messrs. Leworthy and Rev. Vacie.

The prize-winners were mostly local exhibitors, which suggests that there should be a local bee-keepers' association. If those bee-keepers who are interested will send their names and addresses to Wm. E. Dart, 73, High Street, Barnstaple, who has promised to act as hon. secretary *pro tem.*, they will receive a notice of any meeting that may be arranged. He will be glad to receive any suggestion

and rules from established associations that are willing to help us. Our thanks are due to all that supported the exhibition.—*Communicated.*

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Notes from Staffs.

[10048] I feel we shall be doing ourselves a great injustice if we miss this opportunity for legislation, concerning "Isle of Wight" disease. Surely we have sustained quite sufficient loss to be convinced that bee-keepers will not voluntarily stamp the disease out themselves. In two seasons before the war I lost 15 stocks, was cleared out entirely, so packed up for a time, but cleansed everything before packing away. Then I went out and had four years in the war and came across all sorts of methods of keeping bees, in different parts of France and Belgium, some hives flourishing, some whole apiaries wiped out by the ravages of war. On returning home I felt like getting some bees, but the price was prohibitive. However, I waited till June this year; then I overhauled my stock, and had a bonfire of all old frames, and smashed up old hives for firewood, except one, which was thoroughly soaked in very strong Izal solution. Then I set to, and made hives—W.B.C. type—from bacon-box wood for outside walls, and obtained a swarm for 30s., the end of first week in June, a fine lot, about 5 lbs., Italian hybrids. They sent off a swarm and a cast; then I made a nucleus, introducing an Italian queen. I am glad to say I have wintered down two strong lots on ten standard frames of comb, one lot on eight combs, and the nucleus was very strong on six combs. They have all been well fed, and should be safe till spring.

I notice Rev. Hemming says his article on "Women's Institutes" is in the B.K.R. I wonder if he would join in organising village bee clubs on co-operative lines, to obtain requirements for bee-keepers to a centre, and to find a market for their produce.

It cannot be done by a county association, because of cost of re-transit. The margin of profit would be swallowed up in retransport. We have our bee club here, and it has worked out well this, our first, season, and we hope to do better as we get to know more bee-keepers in our district. The county associations are quite all right; if they were better supported they would be able to do more for us—or have the county associations had their day, since the education departments provide bee experts and lectures, and have now taken up the business of re-stocking the country with a supply of bees to meet the deficiency caused by the "Isle of Wight" disease? I was going to take up the "Conqueror" hive system, but the last letter of Mr. Manley concerning them has put them out of court with me, till I have seen someone with them so that I can judge for myself. G. H. Clewlow, Codsall.

Glass Quilts for Wintering.

[10049] In answer to your correspondent of three weeks ago, I have wintered six to ten stocks of bees for the last two years with Burgess' glass quilts on, and have never yet had any loss.

In the weaker stocks there may be a small amount of condensed moisture, but the amount never appears to be detrimental to the bees, and shall continue to use them for all my stocks. The season here has been decidedly bad, and all stocks are short of stores. — Stanley A. Blenkarn.

Best Variety of Bee.

[10050] Could you please find a small space in your valuable B.B.J. in answer to Mr. Alun-Jones's letter, 10038, B.B.J., November 20. He thought a cross of bee between the Dutch-Italian drone, with a British queen would be a good one. I have got the Dutch-British cross, with the Italian queen. I have six hives standing, and I find they withstand the "I.O.W." disease. I have had them this last three years, and they have come through safe and sound this summer. I had three swarms, the first was a good *half a bushel*, the second over a peck, and the third nearly a peck. Three are swarms this year; three old stocks.

Now to come to honey taking. From the three old stocks, I got 160 to 170 lbs.; between 60 and 70 lbs. bottle honey from one stock, the rest from the other two stocks in sections. I was asked for swarms, but could only get what I wanted myself. I was offered £2 for swarms, as they were so large. I got three large swarms and 160 to 170 lbs. of honey off the

three stocks. So, if your correspondent like to try the cross, I think he will find they are good for breeding and hard workers. They throw two kinds of drones, black and golden, and they are a very fine drone, too. The workers take to the supers early—I supered the latter end of April: took off super in the month of May. I had honey on the market in Egham, Surrey, and Staines, Middlesex, before any other person.—L. TIDBURY, 61, Causeway Place, Egham, Surrey.

Queen Introduction.

[10051] On the question of introducing queens, that arose from the subject of Mr. Thomas's recent paper, I may say that I have been successful in introducing queens to *strong* lots of bees, immediately after the removal of the old queen, by placing the new queen in a tumbler and inverting this over a small piece of perforated zinc over the feed hole. The moist heat caused by the excitement in the hive over the loss of the queen fills the tumbler, and in half an hour the zinc may be quietly drawn aside sufficiently to allow the bees access to the tumbler. The bees have an "Oh! mother, we have missed you" feeling, and what is equally helpful is that the queen, having been alone, is now hungry, and the clinging moist heat from the hive does the rest. Drop a quilt over the glass and leave them. I think this is one of the little "helpfuls" handed on by Mr Woodley.—W. LOVEDAY.

"Isle of Wight" Disease.

[10052] In your issue for November 20, page 522, Dr. G. R. Strong asks the following question:—"Does anyone know of a stock of bees infected with 'Isle of Wight' disease, the diagnosis of which has been confirmed by a competent bacteriologist, which has recovered and seemed healthy subsequently for twelve months?"

An answer is to be found in Vol. 20, Part I., of "The Proceedings of the Royal Physical Society of Edinburgh (Session 1915-1916). Here is the extract from a paper by John Anderson, M.A., B.Sc.:—"Specimens (of bees) were sent to Cambridge from Lewis in October, 1911, at the time of the second outbreak of disease in the island. The specimens were from two stocks, and these are Nos. 54a and 54b in the table on page 47 of the 1912 report. Dr Graham-Smith examined these himself, and reported 'many young stages' of *Nosema*. Destruction of both stocks was advised, but they were watched for a few days longer, and only one was killed. The other, a colony of American golden bees, completely recovered, wintered in excellent order, and never again displayed crawling symptoms."

With your permission, I desire to ask Dr. Strong two questions:—1. By what means can a bacteriologist confirm diagnosis of "Isle of Wight" disease? 2. As the competent bacteriologists who are engaged in research into the cause of "Isle of Wight" disease under the Board of Agriculture and Fisheries have not yet finished their work by proving to their own entire satisfaction, and that of the majority of those interested, that the true cause of so-called "Isle of Wight" disease is discovered, can Dr. Strong give to your readers the *overwhelming* evidence he refers to, which proves that *N. Apis* is the cause of "Isle of Wight" disease?

G. W. AVERY,
Senior Lecturer in Beekeeping, Edinburgh and East of Scotland College of Agriculture.

Re Frame Controversy.

[10053] Is this not a hardy annual which has never yet succeeded in obtaining a foothold? Experiments carried out in years gone by have proved that the standard, adopted by the B.B.K.A. after exhaustive trials, is the best all-round frame. The following, taken from "Gleanings" in 1910, is interesting:—

"The latest experiences show that if there is to be any reduction in the size of hive bodies or brood chambers it should be along vertical rather than lateral lines; hence we see a strong tendency growing more and more towards the ten-frame hives, shallower than the 'Lang-troth,' but otherwise of the same dimensions."—W. H. H.

Frames.

[10054] Glad to see that the size of the frame is being discussed. Parson Gerstung, of Germany, proved to his satisfaction, after measuring many successful wild colonies, that the right size of comb was almost exactly the 16 in. by 10 in. now being advocated by some of your readers, but his frame is 10 in. wide and 17 in. deep. It thus admits of a nice circle of brood with a good saddle of honey over, a very comfortable arrangement during the changeable weather of spring.

My bees have never done so well as when they winter on a set of standards with shallows over. In an observatory hive, however, I have seen that the queen is reluctant to cross the space between the two sets of frames, and I am sure that the semi-isolation caused by this gap induces queen-cell building, and then swarming. The

cheapest change now would be to a deeper 14in. frame, by getting a maker to cut longer side pieces, and using an eke under the body box. Fourteen by twelve would make a slightly larger frame than the proposed 16 by 10, and before reading your symposium, and while reading Gerstung in Germany, I had made up my mind to try that, if not 16 by 14, as soon as I can get the bees on to it. I cannot say that I expect good results from a longer frame such as 16 in. In fact, the Gerstung seems to me more natural, but rather too much bother in manipulation.—G. G. DESMOND.

The Brood Hatching Chamber.

[10055] I have been looking for reports upon this appliance, introduced by Dr. Abushâdy.

The writer made a brood hatching chamber on the same lines 27 years ago, and, after using it one season, discarded it, as being too much ahead of nature—so much of the nature of an attempt to hitch the forces of nature on to the pocket as likely to bring the *bank* down on one's head.

I have found that it is both possible to assist Nature and easy to wrong her.—W. LOVEDAY.

Do Bees Recover from "I.O.W." Disease?

[10056] In reply to G. R. Strong (10,040), I sent you in July or August, 1914, a number of bees which you certified as suffering from "I.O.W." disease. Of five stocks (all suffering) I lost four. One, I treated in the following manner, recovered, and from it I have again built up to six (the limit of my accommodation) without, so far, a trace of disease.

This stock (hybrids) on examination had two supers of shallow combs filled, but not a trace of honey or brood in the body box.

I removed the supers, then moved the hive (No. 1) to a new location, putting another with infected combs on the old stand, for the returning old bees (No. 2), then fed both lots with syrup medicated with Izal, one teaspoonful to seven lbs. sugar. Within a week the queen in No. 1 was laying, when No. 2 got a piece of comb with eggs, from which a queen was hatched, but I don't know that she ever mated, as the end of this hive (No. 2) came with a gale of wind and rain—the roof was blown off and the lot perished. No. 1 was weak the following spring, but built up nicely, and has done well since. That queen was superseded two years ago. —THOS. GREIG.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

Late Pollen.

[9899] I've just started bee-keeping after getting wounded in the Great War. My father kept bees when I was a boy, and I was greatly interested in them, so thought I would follow in his footsteps. He got one year, at the Devon and Exeter B.K.A., first, second, highly commended, and commended prizes—not at all bad, do you think.

On Saturday, November 22nd, being a warm day, I was watching the bees, as they were out very strong, and to my surprise I saw a great number coming home laden with pollen. I was wondering if it was through them being fed with "Bacterol" candy? The lot that was doing so are Dutch and Italian, on nine frames of comb and honey. Can you give me any reason for them doing so. I have worked them up from a nucleus. I'm a reader of the "B.B.J.," and I think its a splendid book for little hints.—DAVID H. TOMS, Devonport.

REPLY.—We do not think the candy has anything to do with gathering pollen so late. It was simply due to the warm day, some late flowers, and a strong colony of bees.

Freeing Combs from Pollen.

[9900] I have some nice wired frames which contain a lot of pollen. I should like to use them next season.

Kindly tell me how to remove the pollen.—C. M. P.

REPLY.—Soak the combs for several days in water, and then wash out with a garden syringe. If not successful the first time, repeat the process. If the pollen is very dry much of it will shake out.

Combs from Other Hives.

Do Ordinary Cryptogams Cause May Disease, Wing Paralysis, and Trembling of Bees.

The knowledge concerning the diseases of adult bees is at present very precarious, said Dr. Morgenthaler, a member of the Bacteriological Institute of the Liebefeld, near Berne, and since the causes are not positively known, their diverse forms are not easily distinguished from one another. It is not known whether the ordinary symptoms—swollen abdomen, inabilty to fly, trembling and darkening of colour, which appear isolated or combined—belong to one and the same disease. The discovery of parasites made by Zander has not yet supplied the expected explanation.

The great interest which all beekeepers take upon this question of mortality of bees, in large numbers, sometimes causing complete destruction, justifies the analysis of the work of Turesson.

This Swedish author, in experiments made in 1916, examined the toxic action of cryptogams upon man and mammiferous animals. He found that certain fungi which are very common may exercise a poisonous action, more or less powerful, upon the organs. In rabbits, fed with cultures of different cryptogams, he noted the following symptoms: At first, irritation of the nervous system, which manifested itself with trembling and spasms, a greater cardiac activity; then a weakness to such an extent that they could not stand upon their legs; finally paralysis and death. Paralysis attacked also the digestive tube, in such mode that the intestines could not discharge anything, and a constipation was produced which caused a great dilation of the stomach and the rectum. Turesson thinks that too little attention has been paid in the past to the toxic influence of cryptogams and that, for example, some of them cause cerebro-spinal meningitis of domestic animals.

Their toxic action is due to the fact that these fungi produce substances related to phenic acid and have much analogy with the acids of lichens, which are also poisonous for various animals. The resemblance of the morbid symptoms described, with those often observed in the diseases of adult bees, induced Turesson to examine more closely the influence of nutrition with the fungi of mould. He enclosed about a dozen bees in each of 13 cages sufficiently roomy and fed the ones with honey mixed with a determined amount of various fungus of mould; the others, to serve as checks, with pure honey. The result was that one species of fungus, after three days, the others after four and until eight days, had killed them all, while those fed with pure honey were still in good condition. The dying or dead bees had nearly all a swollen abdomen, caused by a plethora of the stomach or intestine; presenting therefore the symptoms of May disease; only with the fungus that had caused death in three days did the bees appear to have a normal, non-tuniefied abdomen, because in that case the venom had acted too speedily and the bees had died before having absorbed a large amount of food. The other symptoms of the malady were as follows: Paralysis of the wings, unsteady walking and trembling. The bees often rubbed their abdomen with their legs and thus acquired the shiny black colour.

Five different fungi were employed in the tests: three species of the genus *penicillium*, the ordinary *mucor mucedo*, and the *cladosporium herbarum*, a frequent fungus which belongs to the black fungi, and had been produced in part on dead bees and in part on combs of honey. It is probable that other kinds may be found of varying toxicity and even more poisonous; the different species are of variable toxicity, and it is even possible that some sub-divisions of the same species may behave in different modes, and that a fungus may be fairly lenitive in one region, while the same variety becomes virulent in another, by a greater production of poison. Thus, according to Turesson, the question is not, in regard to the mortality of bees, of a properly called infection, or of parasites the germs of which develop in the body of the individual bee, but of an intoxication by means of a chemical poison. In such a case the poison does not remain within the fungus, but is transmitted to the body upon which it acts.

It is therefore possible that even sweetened water in mouldy combs be poisonous, even after the fungi have been removed. The toxic substance is not destroyed by the heat that may melt combs. The fungus of mould does not develop on virgin combs; on the other hand, every beekeeper knows that a mode of production of mould are the used combs, which are sometimes kept in an ill-ventilated closet.

The moist heat which predominates within the colony is favourable to the development of fungi. The bees must certainly use great cleanliness to avoid mould in their home, and they need also ample ventilation of the hive, in summer and winter. The fall feeding with sweetened water should not be provided too late, because at that time the food cannot be sufficiently condensed, from which an increase of moisture is produced. The combs hanging in winter outside of the

cluster are especially exposed to the possibility of moulding. This is one of the reasons why the symptoms of poisoning are more particularly and more frequently manifested in spring, when the bees begin to use the food in those combs, or even if they only polish them with their tongues.

This is, in brief, the summary of the work of Turesson, who believes he has discovered in the fungus of mould the cause of the May disease, of paralysis of the wings and of the trembling. Although mould has been considered bad and noxious by bee-keepers, this work exposes some viewpoints that are quite new, to judge of its influence upon the mortality of bees in large numbers. The future will demonstrate whether his opinion is just, or whether, as with the nosema, the toxic influence of the mould is not too much dwelt upon. The experiments made with bees in cages are not sufficient to elucidate the matter; it is necessary that the experiment should pass through the observing of the apiarist. The imprisoned bees find themselves in abnormal conditions and the evidences upon the perturbations of digestion should be judged with increased care. In fact, a normal bee, aside from her love of cleanliness, will avoid discharging her excrements in the hive, or, in this case, in the cage; this alone is already sufficient to disturb the digestive functions from their natural process. It is true, on the other hand, that the checks made, by feeding some imprisoned bees with pure honey, who remained healthy, bespeak in favour of the Turesson opinion.

It would be most important, I believe, for bee-keeping, if it was confirmed that the mortality, in large numbers, of the bees, be by intoxication and not by infection produced by bacteria or by nosema; this especially in my opinion as regards the cure. In the apiarian publications are found frequent reports of favourable results obtained with curing liquid remedies. THE BRITISH BEE JOURNAL interests itself exhaustively in this question. Each number of the past year contains one or more articles giving proofs, whether successful or not, of cure of the "Isle of Wight" disease, which yet remains unexplained and is very disastrous. The results were lately so favourable that the Department of Agriculture took interest in the matter and offered a remedy that was recommended, Bacterol. Since the nosema was for a long time considered as cause of the disease, one could reasonably doubt the efficacy as cure of a chemical substance, since these spores are much more resistent, against such an influence, than the intestines of the bee; it would seem rather strange that a remedy might destroy those spores without being noxious to the bees in any way. Lately, it has been demonstrated, by Anderson and Rennie, that the "Isle of Wight" disease has **nothing to** do with the nosema.

In some other countries, also, the wholesale mortality of bees has been charged to the nosema, of which it is difficult to give an explanation, because this parasite is not always present in the dead bees. On the other hand, its propagation in healthy swarms has damaged its fame as a dangerous germ. I do not believe that the nosema deserves the interest of those who occupy themselves with bee diseases.

If it becomes established that the cause of the disease is not a resistent microorganism, but a definite chemical substance, similar to phenic acid, there will be, already, a great possibility of obtaining, at least in light cases, an improvement and a cure through an antidote administered under shape of liquid remedy. The work of Turesson opens, therefore, a favourable field for observation and experiment.

However, the best prophylaxis, against diseases, must not be sought, in one case or the other, among chemical substances, but in a well-managed hygiene of the bee hive, making it a salubrious home for the bee, by rational management.

(Translated from *L'Apicoltore Moderno*, of Turin, May, 1919.)

Special Prepaid Advertisements

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Trade advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1½d. per word as "Business" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.

PRIVATE ADVERTISEMENTS are only intended for readers having* Surplus Stock *to dispose of.* Driven Bees, Nuclei, *and* Queens *that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.

PRIVATE ADVERTISEMENTS.

100 LBS. LIGHT HONEY in 1 lb. and 2 lb. bottles, divide, 2s. per lb. and carriage.—J. P. HALL, 10, Primrose Hill, Raunds, Wellingboro'. rx.1

HONEY, in 28-lb. tins, 52s.; sample, 1s.—Box 55, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. rx.2

PURE LIGHT HONEY, in 28-lb. tins, £2 10s. each. — GEO. THOMPSON, Helpringham, Sleaford, Lincs. x.3

PURE light Cambridgeshire Honey, 14-lb. tins, 22s. 6d.; 28-lb. tins, 42s.; tins free; sample 4d. —J. YOUNGER, 6, Maid's Causeway, Cambridge. w.26

PURE ENGLISH CLOVER HONEY (granulated), 17-lb. cans, 30s.; package free.—J. ALLEN, 8, Beech Hill, Raunds, Wellingboro'. x.4

BEE-KEEPERS (Guildford and District).—Proposed Association for social intercourse, meetings, etc.—Will those desiring to join please write Box 56, B.B.J. Office, 23, Bedford Street, Strand, W.C.2.? rx.5

SIX 28-lb. tins prime English Honey, granulated, solid.—VINCENT, 132, Croydon Road, Anerley. x.6

PRIZE BUCKS HONEY, granulated.—Four 28-lb. tins, £3 per tin, £5 for two; two dozen 1-lb. screw-cap bottles, 15s. per ½ dozen bottles; carriage paid. — STEVENSON, Thames View, Flackwell Heath, near High Wycombe, Bucks. x.8

A FEW GOOD SECTIONS, glazed, for Sale at 48s. per dozen, carriage forward; half dozens supplied same price.—Box 53, BRITISH BEE JOURNAL Office, 23, Bedford Street, London, W.C.2. w.40

SIX STOCKS in skeps; apiary never had disease; price from 32s. 6d. to 80s., according to weight.—Box 54, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. w.41

STRONG STOCKS of Hybrid Italian Bees for Sale, £3 10s. per stock; also W.B.C. Hives, in good condition, £1 10s. each. Inspection invited. Purchasers must remove. Terms cash.—Apply, COLONEL HARLOW, Remount Depôt, Woolwich, S.E.18. rw.42

APPLES, direct from my orchard, 2d. to 7d. per lb. Special price for large quantities. Stamp for lists.—STEEL, Spring Gardens, West Ashling, Chichester. rw.43

FINEST IRISH HONEY in 7-lb., 14-lb., 28-lb., 56-lb. tins; also Sections.—Write, CRAWFORD, Apiaries, Castlederg, Co. Tyrone. rw.49

CORRESPONDENCE Course in Bee-keeping.—MISS F. E. PALING, Golden Square, Henfield, Sussex. rw.31

THE GRAMOPHONE RECORD EXCHANGE will exchange Records 5d. each, not less than six, return postage free.—6, Rood Lane, E.C. Particulars stamp. rw.36

WILL all those bee-keepers possessing 25 stocks of bees and upwards kindly send particulars to SECRETARY, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.? v.42

WILL all those who are not in favour of legislation please communicate with Box 48, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. v.28

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

IMPORTANT!—Keep your hives dry. Best quality flexible Felt Roofing, 26 in. by 36 in. 1s. 6d., post free. Can be fixed in five minutes.—CUTHBERTSON, Finmere, Buckingham. x.7

ARMY WATERPROOF GROUND SHEETS, 72 by 36, brass eyelets, two for 5s. 6d., four for 10s.; also some suitable covering outhouses, moter sheds, etc., 15s. per dozen.—SAGAR'S STORES, 69, Hyde Road, Ardwick. w.30

ITALIAN QUEENS direct from Italy. Price list for 1920 on application.—Address, E. PENNA, Bologna, Italy. w.39

"LET THE BEES TELL YOU."—The Middlesex Hospital needs help—hard cash. We propose to offer for sale 1,000 copies of the above booklet at 2s. per copy, and to give all profits to the hospital. Are you with us?—S. H. SMITH, 50, Maid's Causeway, Cambridge. w.50

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

Books for Bee-keepers
NOW IN STOCK.

		Postage
Bee-keeping (DR. E. F. PHILLIPS)	10/6	6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	3d.
Dissectible Model of Queen Bee	4/6	3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	1d.
Honey and Health (A. HOPE)	-/6	1d.
Honey Vinegar (REV. G. BANCKS)	-/2	1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	2d.
Productive Bee-Keeping (PHILLS)	10/6	6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.)	2/-	3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	2d.
Snelgrove's Method of Re-Queening	-/6	1d.
The "Townsend" Bee Book	2/6	2d.
WAX CRAFT (T. W. COWAN)	2/-	2½d.
Wilke's Book on Swarming	1/-	1½d.
MISCELLANEOUS.		
Maeterlinck's Life of the Bee	3/6	3d.
The Lore of the Honey Bee (TICKNER EDWARDES)	2/-	2d.
The Humble Bee (F. W. L. SLADEN)	12/6	6d.

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

The 'Kent' Standard Model Hives & Appliances

TESTIMONIAL. *May 12.*

DEAR SIR,—I have had an opportunity of comparing the material and workmanship of your hives with others on the market, and in my opinion there is no sort of comparison between the two, yours being altogether superior in every particular.—Yours faithfully,——

S. J. BALDWIN, Stanley Road, Bromley, Kent.

"READS LIKE A FAIRY TALE."

A number of readers have given expression to their delight in exactly the same words "Your book reads like a Fairy Tale." Simmins' "A Modern Bee Farm" unfolds the Mysteries of Bee Culture and the correct Methods of Management in such a realistic and novel manner, the reader's attention is so rivetted upon the contents of the book that he likes not to put it down or leave it. Many tell how they have read it through and through, again and again, in some cases a dozen times or more; and always with a new interest.

The following are a few extracts from letters of delighted readers who have derived great pleasure and much profit from perusing this novel Fairy Tale.

A Reader's Opinion. What will yours be?

"'A Modern Bee Farm' stands absolutely by itself, as a work on bees." W. P. L.
Kettering.

Many Readers of this Opinion.

"I have kept bees for many years, and take every care I can, but I see I ought to have had your book 10 years ago."
R. F.
Cheltenham.

"Excelsior!"

"I have most of the leading works on bees (both English and American), and I have obtained more light and understanding from your book than from any other. It furnishes a grasp of the subject such as no other book does." A. R.
Sunningdale

"Again Excelsior!"

"I have been reading every book (in English, French and German) on Apiculture, and of all the works that I have studied (especially as regards practical information) I much prefer your 'Modern Bee-Farm,' the style of which is so charming."
CLEMENT COKE.

Yet Again.

"I have read 'A Modern Bee Farm' through with much pleasure and profit. I think, without exaggeration, it is the best of all my many bee books." JOHN YOUNG.
Timaru, N.Z.

An Author's Appreciation.

"I should like to say how much I appreciate your book: it is far and away the very finest thing in practical bee literature.
OLIVER G. PIKE.

Worth £5 a Copy.

"My son and I are agreed that a 'Modern Bee Farm' is worth its weight in gold! I should certainly be sorry to take £5 for the copy I have if I knew it were impossible to obtain another." S. DEACON.
Cape of Good Hope.

Worth £10.

"I would gladly have given £10 to have had it a year ago, as it would have saved me more than that." H. L
Dorchester

Best Investment.

"I have read your book this winter and think it the best investment I ever made."
G. W. W.
Marlow.

The Fairy Tale.—Wonderful Success.

"I have had wonderful success with your conqueror and the 'Modern Bee Farm' methods. I have followed all your advice in the 'M.B.F.' by faith; at first it read like a fairy tale, with perfect success in every particular, even to uniting without flour, or drowning with syrup." C. L. N. P.
Shalbourne.

An Enthusiast's Dream.

"I had heard of your system for years, but always thought of it as an 'Enthusiast's Dream' until the other day I visited an apiary and saw the Conqueror hives filled to overflowing with 'White Star' bees; then at a glance could see that for production of honey, for ease of management, etc., your system is A1."
AN EXPERIENCED BEE KEEPER.

From Two Hives—500 lbs.

"Two hives yielded one swarm and 500 lbs. excellent honey; thanks to reading 'Modern Bee Farm.'" A. W.
Great Chishal, Herts.

Would Have Saved Time and Money.

"I have perused your most valuable book. I only wish I had known of it before, as it would have saved me much time and money."
C. E. H.
Sutton Coldfield.

Again Thanks to "M.B.F."

"Thanks to your 'Modern Bee Farm' honey is rolling in, and taking all my spare time; although many around here are doing little or nothing." J. B
Forfar

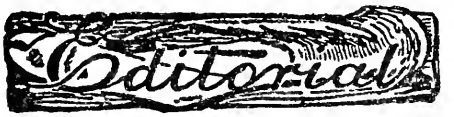
Why Follow the Old Ruts?

"I have seen nothing to equal its stimulating heterodoxy. With a fair field half Britain should have been 'Conquerors' by now." W. M.
Dundee

No Words can Describe it.

"'A Modern Bee Farm' is splendid; in fact, no words can describe it." J. S
Linlithgow

"A Modern Bee Farm and its Economic Management," nearly 500 pages, 7/6, of the Author: S. Simmins, Queenland, Heathfield, Sussex.



Bee Legislation.

We have used the above title for all correspondence on the subject of legislation for bee diseases. There has been no bee legislation suggested for any other purpose than dealing with disease, and it is difficult to imagine anyone thinking that, under the title of "Bee Legislation," without specifying "Diseases," there was a possibility of including other matters, such as the ownership of swarms. It is, perhaps, needless to say that in all cases where the above title is used it refers only and solely to legislation for bee diseases, but in one instance it has been suggested otherwise. We shall be very surprised if there is even one other reader who has imagined such a thing, but in case there is we make this note to prevent the possibility of any misunderstanding. We hope it will be clearly understood that the title "Bee Legislation," as used in our paper, has up to the present, and will in future, refer to *legislation for bee diseases only.*

We have received a further long letter from J. Hewitt, of Sheffield, which, for the purpose of arriving at a decision as to what kind of legislation will be acceptable to the majority of bee-keepers, is as valueless as the one already published. Our aim is to have the views of as many as possible. As our space is very limited, each correspondent should embody his views in one letter only, stating them as lucidly as possible; therefore, apart from their uselessness in the discussion, for the above reason, we cannot print any further communications from him. Although he promises us one effusion per week!

For Mr. Hewitt's benefit we may say that we are not for sale to either side, but will publish all letters as received, *whether in favour or not.* Can we be more fair?

If, for lack of space, we are unable to publish all communications received, we promise that the letters kept out will be those in favour. *All* those against, with a limit of one per correspondent, will be printed.

In view of what we are receiving, we would again ask our correspondents, on either side, *to stick to the point at issue and avoid personalities.*

Jottings from Huntingdonshire

No sun, no moon,
No moon, no noon,
No proper time o' day,
No top to any steeple,
No seeing any people,
No t'other side o' way.

. . . .

A miserable pain in every member,
November!

And thus November left us. Fitful month. She gave us days like June, and winds like March; two spells of severe frost and snow, then left us in mist and fog; and now December is here. And since she arrived the sun has shone, and shone, and shone. The bees are pretty merry, too. I watched them for a while this morning. I'm sure they had caught the fever of the hunting season, for they were having many games of fox and hounds. One bee would come slily out and dart off, and some half a dozen would be after her, to be followed by a whole pack of hounds. By and by the fox would come back, having thrown the hounds off the scent. They would be quite a time before discovering that they had been tricked. To test this interesting game: Get a fine brush which has been dipped in paint, and as soon as the bee-fox crawls out, just tip her with the paint. It is easy enough then to time how long she is away. After all, these fine days of winter are the only time bees have for play. Soon it will be work, work, work. Another month, and some of the queens will commence laying, and the aconites will be called upon to yield up their pollen when days are mild. There are still speedwells and pimpernels in bloom, but of little use to the bees.

Speaking of queens, I see a writer in a recent issue of the JOURNAL mentions a queen walking up the front of the hive. I have noticed this myself, and have been watching and waiting for further experience. Personally, I have always taken with a grain of salt statements that once a queen is mated she lives in the hive for the rest of her life, unless she comes out with a swarm. Twice this year have I seen queen bees taking a constitutional, and, what is more, her majesty is not above stinging you when so occupied if you attempt to interfere with her movements. What I shall be glad to discover is what sign does she give to her courtiers that she is off for an incognito flight, for in neither case did any other bees accompany her majesty. On her return, however, they showed by many manifestations that they were glad to see her safely back. Will other bee-keepers please take note of their own experiences in this direction and let us have them?

Mr. Clewlow asks if I will join in organis-

ing village bee clubs on co-operative lines, etc., etc. Yes, and no. Yes, if every would-be bee-keeper will pledge himself to at once notify any signs of disease, and allow his stock and frames to be burnt if necessary. No, if co-operation only means cheaper purchases, and a market for surplus honey, with no desire to have the bees examined periodically by an expert. After all, Women's Institutes are growing apace; why not make use of them? They are springing up in every village, and therefore will have a pull over village bee clubs. The latter might, at the best, have 20 members in a population of 400—the W.I. would have not less than 70. These Institutes are already organised into counties and regionals, and their possibilities are therefore illimitable. However, something must be done. Bee-keepers must be patriotic. And with a country nearly bankrupt, it behoves every one of us to produce, produce, produce, and so increase the wealth of the country. What a day it will be when we can not only supply our own country's needs, but export some surplus honey abroad, and so help to restore British credit!

Here I should like to hark back to the conversazione held in Dairy Show week, and give a few impressions. One was sorry to hear Mr. Thomas so emphatically decry the Dutch bee. Mr. Bryden was much kinder to the little black ladies, as was also Mr. Hill.

Personally, while I still hold that Ligurians and Golden Italians are the bees of the future, or until such time that the English black native can successfully resist the "I.O.W." disease, I nevertheless feel that skilful management of Dutch bees will always bring reward. Their swarming proclivities are not an unmixed blessing. An early Dutch swarm hived in a telescopic hive of the skyscraper fashion will amaze the owner with the amount of honey that will be stored. The motto for those who own Dutch bees is: Give room, give more room, give still more room. Dutch bees also work happier and better if they have to provide most of the wax themselves. So, Dutch owners, "dinna despair."

Referring to Mr. Bryden's paper. The reader doubtless carried his point. The question that seemed to be simmering in most minds was: Can it be ultimately an advantage to winter nuclei in cellars, or sheds, instead of uniting them up in the autumn? Let us look at it like this. One has, say, three nuclei, each nucleus being of four frames. If these are united a very strong stock is the result, which, if wintered successfully, is bound to throw out a swarm early in May, which will possibly be followed by a cast a few days after. If the honey flow be good, the one strong stock will by June have increased to three healthy stocks, all storing surplus honey. If, on the other hand, the three nuclei are wintered in the cellar or shed, one keeps three good queens, and by March the nuclei may be placed out of doors. A little feeding and the opening of the fruit blossom will transfer these to three strong stocks by the end of April or early May. Mr. Bryden's method is therefore to be commended, giving a full month's advantage; and think what a month means when the honey flow is on!

My kinsman of Runcorn, some few weeks back, asked why bees resort to manure heaps for moisture when abundance of pure water is available near by. In reply: Why do cows stir up mud in water they wish to drink? Why do fowls walk yards to a dirty pool when pure water is always at hand? Why do men colour water with tea, coffee and cocoa? Because they prefer it. Bees are no greater sinners than many human beings who like things "high." Providing the latter does not run the risk of ptomaine poisoning, all goes well. Bees, I should say, work medicinal flowers to counteract any evil effects that might follow as a result of their proclivities for highly seasoned drink.

E. F. Hemming.

Steeple Gidding.

Stray Notes, Comments and Questions.

Foundation.—I have not yet had any foundation from a dealer that bees refused, but I have known them refuse foundation left in undrawn-out sections the following season, probably because it had become hard and brittle. In the particular instance I have in mind they gnawed all the foundation out and rebuilt with new wax.

Bee Stings for Rheumatism.—Re Conversazione B.B.K.A.—From my own experience I believe bee stings are decidedly beneficial in rheumatic affections. Years ago I used to have periodical attacks of lumbago, but after I kept a lot of bees of my own, and worked maongst other people's a great deal, getting many stings in consequence, I got free of my complaint for several years. Two or three years after I had to give up my bees I had again severe attacks. This seems to point to the fact that continuous treatment is necessary.

Weed Killer v. Brine.—Boiling brine will kill weeds, so will boiling water. The objection to brine is that the salt soon undergoes a chemical change in the soil, becomes a manure, and stimulates the next crop of weeds. The advertised weed

killers are better. In purchasing weed-killer it is more economical to get the one-in-fifty strength rather than the one-in-twenty-five. One ounce of carbolic acid to about a gallon of soft water makes an effective weed killer. Soft, or rain, water should always be used, and no weed-killer should ever be applied after heavy rains; but in fine weather, after rains, preferably in the early spring. If properly applied—say, the end of March or beginning of April—it will keep weeds or any other vegetation from growing for the rest of the spring and summer. Most weed killers are deadly poison, so chickens and other live stock should be kept off the ground where it has been applied until after the next rains.

English v. Foreign Bees.—*Re* Mr. Alun Jones's article, I am inclined to agree with him. The best of our English bees should certainly be utilised for crossing with the Dutch or Italian or Dutch-Italian. They certainly are more "amenable to treatment" when worked solely for honey. In past years I have had huge colonies working in two or three supers, and showing no desire to swarm. As a rule, English bees are quite gentle under manipulation, though one has known stocks that were perfect demons under all circumstances, but hybrids, as everyone knows, are prone to show considerable temper on being disturbed.

Medicated Food for Bees.—I am also in agreement with Dr. Allen that it is foolish, not to say harmful, to feed medicated food to healthy bees. I believe it is possible, in human beings, to set up symptoms of disease (in a healthy subject) by the very drugs employed to cure that same disease. If in humans, why not in bees? I once observed signs of dysentery in a stock which was being fed on medicated syrup, other stocks at the time having natural stores, or non-medicated syrup, not showing any signs of the complaint. This, of course, does not prove, only suggests, medicating may, under certain circumstances, be harmful. It would be interesting to know what other bee-keepers think on this subject.—D. J. Hemming, Runcorn.

P.S.—I have just received this week's B.B.J. (November 27), and would like to remark that commercial bee-keepers are about the only craftsmen that Parliament has *not* legislated for, so it is about time they did get a taste of Governmental interference. Joking aside, though, is it not proposed to legislate for the bee-keepers who do *not* cultivate bees successfully, either because they do not trouble to themselves, or that careless neighbours will not let them; therefore successful bee-keepers have nothing to fear.

Bee-Keeping in Scotland.

Notes and reports from the North of Scotland have been for some time conspicuous by their absence in the pages of the B.B.J. It may prove interesting, therefore, to the many readers of the Journal to know something of matters apicultural in the North-East corner of Scotland for the year now drawing to a close.

The season has, all through, been an abnormal one, with long spells of cold north and east winds. When I state the fact that in upper Deeside last week the thermometers indicated a frost of twelve degrees below zero, it ought to make southern bee-keepers, such as Mr. Kettle, and Mr. Hemming, shiver in their slippers, and be thankful that they and their bees live under less arctic conditions.

[The article is dated November 22.—Eds.]

In spite, however, of the untoward conditions of climate, the past honey season has been a fair one all over. I had the privilege of touring, on behalf of the Aberdeen and Kincardine Bee-Keepers' Association, in two widely different districts of the area embraced by the Association, the first being the wind-swept eastern seaboard district, and the other the more sheltered and wooded district of Lower Deeside. Charlock and white clover supply the bulk of the nectar available for surplus along the sea-board districts of Aberdeenshire, although whins, broom, and early fruit blossom help the bees along earlier in the season.

Bee weather only came by fits and starts—one fine, warm sunny day amid a succession of cold and windy days, alike unsuitable for the secretion of nectar, and the merry hum of the bees. Still, bee-keepers who had their stocks up to full strength found their bees taking advantage of every moment when they could fly freely, and a good many skilful bee-keepers reached 100 lbs. surplus from hives in good condition. The greater part of the surplus came in during the last week of July and the first ten days of August, when the weather conditions for honey-gathering improved somewhat.

"Isle of Wight" disease still casts its fell shadow over the prospects of successful bee-keeping in some districts, while other districts have not yet known the ravages of this plague, and some bee-keepers have kept their strain of bees for a matter of thirty or forty years. It would be interesting to test a hardy strain of bees from a colder and less congenial

clime like the north-east of Scotland in the milder conditions obtaining in the South of England. The results, at any rate, ought to be happy.

The Valley of the Dee is a district eminently suitable for bee-keeping. Besides the spring and summer flora, it has a glorious wealth of heather on all the hill slopes, and this year bee-keepers found themselves the richer by sums ranging from £30 to £200. The surplus gathered was mainly from heather sources, and came in during the first fortnight of August, when the weather was fine. After that date the drought checked the flow of heather nectar. Like many other parts of the British Isles, Deeside suffered from a lack of white Dutch clover, and the surplus from this important source was a negligible quantity, and owing to the dry weather and cold north winds, bees could not take full advantage of the limited growth at their disposal. At Glassel Mr. A. H. E. Wood, the chairman of the Aberdeen and Kincardine Bee-Keepers' Association, has his model apiary. This interesting and beautifully managed apiary was fully described in a series of well-written articles last year by D. M. M. in B.B.J., and had the honour of appearing in several of the Continental bee journals, notably "L'Apicoltore," of Milan, the most important bee paper in Italy. It is largely due to the enthusiasm and ungrudging work of Mr. Wood that the Aberdeen and Kincardine Association holds such a high place among British organisations for apiculture. The growth of the Association has been phenomenal. From some eighty members at its birth, some nine years ago, it has developed into a giant of 1,500, and has in its ranks two notable first-class experts, Mr. Macdonald (D.M.M.) and Miss Robinson, Glassel, one who has passed the final written papers, but has not yet soared to the lecture test; six second-class experts, and eight third-class experts. The area covered by the Association has been divided into ten districts, with a secretary assigned to each. These ten districts are sub-divided into branch districts, of which there are now fifty-nine, with a local secretary attached to each.

The East of Scotland College of Agriculture has also done much to encourage bee-keeping throughout its area. Mr. Anderson, Lecturer in Bee-keeping, has had a very busy and encouraging season. Demonstrations, lectures, experimental and practical work have been the order of the day, and his winter programme of lectures is fully appreciated by the bee-keeping fraternity throughout the North of Scotland.—R. CRUICKSHANK, Arnage, Aberdeen.

Doncaster and District Bee-keepers' Association.

At a Committee meeting held on October 29, 1919, the Secretary stated that 49 voting cards were sent out, one to each member of the Association, asking for a vote on the subject of the desirability of legislation *re* bee-diseases. He stated that 44 cards had been returned, and all the 44 were in favour of legislation.

The Committee then drew up the following resolution, which was sent to the Director-General, Food Production Department, 72, Victoria Street, Westminster:—

"The Doncaster and District Bee-keepers' Association is deeply concerned by the prevalence of bee-diseases, with its consequent serious loss of honey to the country, and its disastrous effect upon the fruit supply.

By a unanimous vote of the members, the Association hereby applies to the Director-General, Food Production Dept., to use such influence as he can bear with the Government to bring about legislation in the matter for the purpose of preventing the extension of such diseases."—G. H. HEWISON, Hon. Sec.

Questions, etc., for Bee-keepers for Self-Examination.

421. Why should hive entrances be shaded when snow is on the ground?

422. What are the essentials for an effective wintering of a colony in a frame hive?

423. In what way does the quantity of honey stored in a hive depend on the queen?

424. In what liquids is beeswax soluble?

425. How may one colony be made use of to provide rapidly winter stores for several?

426. What quantity of salt is recommended for addition to water supplied to bees?

427. At what temperature will granulated honey liquefy?

428. Why should comb honey, whether in frames or in sections, be glazed when exhibited at shows?

429. How may bees be induced to begin quickly the storing of honey in sections or frames?

430. What are the uses of beeswax other than in bee-keeping?

431. For what purposes is foundation used, and in what respects should foundation be varied according to the use to which it is put?

432. Describe the head of a bee, and show how the head of a worker differs from that of a drone and from that of a queen. J. L. B.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

The Case against Legislation.

[10057] In reading what has been written in favour of legislation during the past few years, I have noticed what a paucity of reasons have been given in favour of legislation and the fluency in which certain words have been made use of by the man out for legislation, and become part of the legislative oratory.

Words not on such a low level with those which the policeman accuse the prisoners with using, when he says in an awed tone to the magistrate: "Your Worship, he/she was drunk, and used words," yet decidedly unpleasant to read.

Even in the Editorial invitation to state our separate views of legislation, is the statement that legislation is required to eliminate as far as possible the menace of disease by the ignorance and cupidity of a few people, such words as these are common property, and could be handed about from hand to hand like a ball, but no useful purpose would be fulfilled nor any good done to the bees.

I may play a lone hand in which the card tricks may go against me, but perhaps the balance of honours may go to me. I have courage in my convictions as to write against legislation, in spite of any hostility which may be shown by your readers, for my convictions are that no legislation is required at present or is yet necessary.

And to those who are hunting hot on the scent of legislation, a halt in their tracts to consider the subject from a different point of view will do them no harm; probably they have been in such haste after reading of those dirty hives that they have not considered the other side of the subject.

It seems incredible that anyone should leave a hive uncleaned with a mass of dead and decaying bees inside, but to consider this hive for an indefinite time a source of infection is a stretch of imagination. The evil was done before the owner perhaps knew the hive was affected. When the bees are in a crawling state and being robbed by healthy bees it is at its height of its power to do evil; this power would rapidly decrease after the bees were dead, until a frost would give the quietus.

I grant cases have been known when swarms have taken possession of such vacant hives, and have also ultimately died, but the owners cannot say they would have lived in a new hive on new foundation, for even in such clean, new hives swarms have been known to perish.

It would be interesting to divide a strong swarm into two lots and give to each a young mated queen, bred together in a distant apiary, and put one lot of bees in a so-called dirty hive and the other in a clean hive. The results would be valuable if repeated, for as one swallow does not make a summer, neither does one incident make a fact. And facts are what we want.

I have myself taken the queen and bees clustering to the frame from an affected lot and after spraying with one of diluted port wine, have placed them into the brood chamber of a strong, healthy lot without any ill results to the healthy lots. This is not an isolated case, and is a stubborn fact. And why should the brood frames and stores taken from an affected hive be less dangerous than the hive itself, which, according to those out for legislation, only is fit for burning. I had up to last spring several cases of "I. of W." disease, mostly developed in bees which I have received. I should say I had over 80 soiled frames, some with the dead bees still in them. Scraping the soiled marks was done, but no antiseptic solution was used on them; they were simply given a spray of port wine, and spread about among a stock of 15 hives none of which have shown the least sign of "I. of W." disease. Here we have 15 chances of disease, and none occurred.

In my mind legislation means burning and destroying, for the supporters hold such views, and, though a Government Bill might not go so far as this at present, yet ultimately it would come, and meanwhile, as the inspectors are only human, and used language strictly within the law, yet their manner of speaking would contradict it, and though the jack is white and shining in front of them, and the bowl truly delivered, yet the bias on the bowl would cause it to swerve to the inclination of the mind of the man who delivered it, and the chief sufferers would be the poor old woman with a few hives, ignorant of what the law means. And what good would such tinkering do, for if in one fell swoop you could destroy all the bees in all the hives, skeps, and boxes in the United Kingdom, yet the disease would still be with you. You may make a wilderness and call it peace, yet

the disease would linger; it would linger in the care of Mother Earth with the wild bees. Under the greenwood trees it would be in the hollow trees, and under an odour of sanctity it would linger in the roofs of the village churches, and probably from numerous other places it would lay low until a restocking took place, when it would reappear again.

Alas, poor bees, after struggling bravely all the summer against disease and vile antiseptic solutions, you have your hard-earned store of natural sweets taken from you, and you have to winter on a compound called sugar, the converting of which tortures your "innards," and those who survive may crawl into a watery and misty sunlight to receive a sulphur dispatch. Alas, poor bees!

And the pity of it, to destroy bees, which, while life is in them, there is hopes of a cure, of which there is none in dead bees, there is no royal road to find a cure for "I. of W." disease; it is open equally to the cottager as to the medical expert, for, while the latter may side-track himself, and lose himself in a labyrinth of anti-serum experiments, the cottager may find a cure as simple as buying a pennyworth of peppermint at a drug store.

My sympathy lies with the cottager, and with those with a few hives—the man to whom an early section is the spice of life, to whom "a bird in the hand is worth two in the bush," in the form of later surplus honey—and I see no good in having a few large apiaries of 100 hives in districts where double that number were owned by the cottagers. I may raise a storm of abuse, but these are my convictions, and I will try to bear such patiently if possible. F. A. CHARLTON.

Stockton-on-Tees.

The above is, no doubt, written by a correspondent in all sincerity, therefore we print it as received, and as an example of what we do not want. We are receiving much correspondence, and we must beg of those writing on this subject to remember that our space is limited, therefore extraneous matter, such as is contained in the first three paragraphs of the letter, and references to cards, bowls, and such other matters quite alien to the subject must be omitted. What we want from both sides is a short and concise expression of their views, with their reasons for such, in, say, not more than 400 words, or about one column.

If it is incredible to our correspondent that anyone should leave hives uncleaned, with dead bees and honey exposed, we are prepared to furnish a great number of authentic instances where this has been, and is being done.

Our friend first says: "In such hives the power to do evil would rapidly decrease after the bees were dead, until a frost would give the quietus." Yet, to push his argument, later on in his letter he says: "You may make a wilderness and call it peace, yet *the disease would linger*; it would linger in the care of *Mother Earth*, etc., until a restocking took place, when *it would reappear again*." How does he make these contradictory statements agree? He bears out in the latter statement our argument that it is necessary to remove sources of infection. He seems to attribute to those in favour of legislation ideas of burning, etc., unnecessarily. This is not argument, but supposition, and he should wait until they thus explain themselves, instead of concluding that his views are theirs. Destruction—yes, of infected dead matter, but not where treatment for cure is intelligently taken up; that is the sane view taken by those favouring legislation. Again, he brings forward the bogey of inspectors. If bee-keepers so strongly object to those, then they should suggest means whereby the work could be done without them. These are suggestions that we require.

Bees in hollow trees and buildings could be dealt with more easily than those of the obstinate bee possessor, with a disease-infested apiary are to-day.

His sympathy is with the cottager, and not with the large bee-keeper, yet we are told that the large bee-keeper is against legislation, while we have ample proof that the cottage bee-keeper is crying out continuously, and practically unanimously, for protection by legislation.

Bee Legislation.

[10058] As one affected by your correspondent's remarks in last week's issue of the JOURNAL, by your kind permission I wish to make a few comments on same. They seem to evade the question entirely. What have the officials of the *B.B.J.* and B.B.K.A., or Mr. Cowan's books, etc., got to do with the need for legislation? What opponents were invited to give us was their views as to why Government legislation was or was not necessary to successful bee-keeping in this country. I don't claim to be a bee-master, but I do profess to be able to "see a hole through a ladder."

Last May I related a case in these columns where a careless bee-keeper had left his diseased hives exposed for healthy bees to enter. I regret to say these hives are still there. Government legislation would stop this sort of thing, and compel careless bee-keepers to work clean. The desire for legislation in this country is overwhelming, in spite of the so-called

strong opposition. Your correspondent will find this dead horse will shortly have a resurrection and soon become the law of the land. The theory put forward by your Oxford correspondent (10046) *re* legislation is no argument against, but rather the contrary. It only goes to prove that this disease is infectious, and requires protective measures. It does not follow that if an inspector or bee-expert fails to take the necessary precaution when manipulating diseased stocks that the need for legislation is not there.

Another point in favour of Government legislation: no bee-keeper or dealer would be allowed to palm his diseased stocks on to people, as complained of in these columns from time to time. In conclusion it is to be hoped our next opponents to legislation will give us some good logical facts *re* their belief, as invited.—P. LYTHGOE, Padgate, Warrington.

[10059] I had been thinking of writing to the JOURNAL regarding bee legislation for some time, but cannot refrain any longer after the two letters from "Bee Masters" in the issue of November 27. I do not wish to try to argue with such piffle, as their line of argument answers itself.

I might say I was one of the many who supported Mr. Woodley's petition many years ago against legislation, being led away with the idea that Government inspectors, would be round upsetting everything when supers were on.

I was at that time living in a small village within two miles of the head of the Thames, when I could practically control the whole of the bees kept in hives, as a little persuasion would have the desired effect on the keepers of bees if disease of any kind showed itself, but seven years ago I came to my present address, to find what a mistaken and narrow view I had before taken. I am now in a locality where a good few bees were kept by people of all descriptions, who, had I attempted to offer any advice, would have said, "Who is he, or what does he know about bees or disease?" and would have resented any advice should I have been foolish enough to offer it. I came here with 16 frame hives, and had them all wiped out with "Isle of Wight" disease within two years, and what wonder, when one day taking a stroll I met a man driving bees out of skeps with crawlers all over the place, within a quarter of a mile of my own, so I ventured to suggest that the owner be asked not to put the said skeps out for bees to clean up, when the person said he had already done so, but a few days after those skeps were to be seen in an inverted position on the garden, for my bees, or any one else's, to clean up. I might say it did not make any difference to mine, as they were already affected, but it shows plainly how unscrupulous, or ignorant people (ignorant of bee-keeping, I mean) can easily spread the trouble as the law stands to-day. After what I have been through and seen, I would say, "let us have legislation," and I trust that every bee-keeper will do his utmost to advance it.

After losing my 16 stocks, I took every possible precaution by burning out and disinfecting, leaving only the empty hives for two years, then procured two stocks of hybrids, and took the further precaution of spraying them with Flavine, and then lost one of these during the first season. I again built up to four stocks for this last season, from which I took 4 cwt. of extracted honey, and made four nuclei, building these up to eight frames of comb each, so did not do so badly, only to find on the last favourable occasion on which I visited my bees that I have crawlers again, and can you wonder, when you know that there are still frame hives left untouched, with combs from diseased colonies, to catch any stray swarms that happen to come along.

I see there is an effort being made to start a branch of the Gloucesttershire B.K.A. in this locality, I hope these efforts won't lie in the direction of starting all and sundry to keep bees, irrespective of suitability, which so often seems the aim, and which no doubt is good for appliance dealers, but not good bee-keeping. If their efforts should lie in the direction of clearing out the curses which I have mentioned, and educating suitable persons to be good bee-keepers, much good could be done.

I had no idea of taking up so much of your valuable space with such rambling thoughts when I started, but I do hope that bee-keepers will stir themselves to help to frustrate the aims of a few; especially that part which will not show their hand.—U. F. COATES-COOK.

[10060] In reply to Mr. Hewitt's letter (10042), I think he will have put the backs up of every self-respecting bee-keeper by referring to them as "ignorant upstarts." I have seen the petition for legislation placed before a good many bee-keepers, and some of them are probably quite as advanced in apicultural matters as he is, and not one of them has refused to sign. I should like to suggest that, if this Bill is passed, all the inspectors be persons who hold B.B.K.A. expert certificates. An expert would know from the outside whether the bees were healthy or not, without opening the hive, and if opened it would be done in a proper manner. I joined our local bee-keepers' association three years ago, and

I have visited a number of apiaries, and all of them have been in good order, all the owners doing everything possible in their power for the bees under their care. At the same time, because most of the Leicester bee-keepers are careful, that everyone else is I do not for a moment suggest.—A LEICESTER BEE-KEEPER.

[10061] I have read with interest the letters in your paper on the heading above, and I join with those who oppose the interference of Parliament.

I am entirely in sympathy with Mr. Alfred J. Clarke.

Bee-keeping is not a great industry. To the large majority it is a hobby. The pleasure of bee-keeping to these will be lost if they are to be interfered with by inspectors, and I think, like myself, will turn to some other hobby. It is not more Acts of Parliament we want, but fewer. After this war we do not want to be Germanised. There are many diseases of trees and flowers. Are we next to have garden inspectors, hen-run inspectors, and "Es ist verboten" placarded all over our sylvan retreats? God forbid!—R. OSWALD FORDHAM.

[10062] In reference to bee legislation, it is difficult to understand the attitude of mind of those who oppose the principle of legislation to check the spread of any infectious disease in the animal world. The details of the methods to be employed are, of course, open to differences of opinion, but the long experience of the results of legislation upon the spread of infection in man and domestic animals is sufficient witness, and the value of compulsory notification, isolation, and disinfection in such diseases.

Personally, in many years I have only twice had infectious disease introduced to my hives, and each time through culpable carelessness of neighbours. — D.Sc., F.R.C.S.

[10063] I should like to endorse the remarks *re* "legislation" in the letter written by Mr. J. W. Mason in the B.B.J. of November 27.

I have been in many places in South Yorkshire during the last year lecturing and demonstrating in connection with the Government re-stocking scheme, and I think I can gauge the feeling of bee-keepers in these parts fairly accurately. I am convinced that the weight of opinion is decidedly in favour of legislation. I have found *apathy* on the part of a few bee-keepers, but never once any strong opposition.

At present, as things are, there can neither be pleasure nor profit in bee-keeping in this country.

In America there are, as most people know, severe laws *re* notification of bee diseases. In my opinion it ought to be so in England too. It is difficult to understand why anyone who is anxious (naturally) to keep his bees healthy should wish to preserve the existing state of affairs.

One feels very reluctant to advise people to take up bee-keeping under the prevailing conditions, and it is to be hoped that a law will soon be passed which will prohibit, among other things, the sale of diseased stocks and also queens reared in apiaries where disease exists.—G. H. HEWISON, *M.A.*, Marr, Doncaster.

[10064] There will be, no doubt, about it, some hair raising on the subject of legislation, which will right itself in the end. Bee-keepers are a very conservative body of persons generally, hence their outlook is limited by circumstances.

Personally, the case of John Hewitt (No. 10042) I think is reasonable. For one thing he says he is a *successful* bee-keeper; this without legislation. The ignorant are persons, no doubt, who can manage bees up to a certain standard, but lose their bees with disease. After all, there is a lot to be said against the teaching of modern (?) text-books, or why all this disease. It is not always the careless that are to blame, as many well-intentioned and well-read beemen are victims to disease without the carelessness of others. Legislation is a bill of dispair, and dispair is mainly ignorance. I quite agree with your remarks that one can be humble and yet intelligent. Mr. Hewitt, as far as I understand his article, doesn't slight the humble beemen. Apparently only a few are allowed to voice their opinions in the JOURNAL, which is a monopoly of a favoured few. Although a young bee-keeper to some, I can prove, and state my case, in no mean order; and I am of the opinion that there is another motive behind all this. If legislation will help the humble, I am for it; but I am having my doubts about it hastened the other way, and I, for one, shall interview and write to every M.P. I know. I am a big worker in the Labour and Socialist cause, and will not be easily smothered. Our present-day methods and teaching of bees are responsible for the state of affairs of to-day. I have had my ups and downs, and fought through without legislation; bought knowledge and tuition have been my order, and legislation is to muzzle brains.—A. TROWSE, Norwich.

[Our correspondent appears to be labouring under a grievance and have the impression that letters that he has written

have not been published owing to some ulterior motive. Whether he can, as he says, "state my case in no mean order," we leave our readers to judge, as his letter is printed just as written, and the composition of this one is far better than his average. We are overburdened with work in doing the ordinary routine of the office, and much correspondence is greatly in arrear. We cannot, therefore, in addition, undertake to re-write articles in order to make them readable. We have several of our correspondent's letters on our file, which have been waiting "a convenient season," when we had time to lick them into shape, and, as usually happens, that season does not arrive at all, or comes too late, and the letters are out of date. If correspondents who cannot state their views clearly will get someone to write their articles, so that we have no more to do than perhaps correct a misspelt word or two or a slight grammatical error, they will find a place in the JOURNAL. In re-writing involved and confused matter there is also a danger that we may give a wrong interpretation of what it is wished to convey. This comprises the sum and substance of "another motive behind all this."—EDS.]

Queen Leaving Hive.

[10065] In the Journal of November 27 you ask if other bee-keepers have noticed queens taking a flight from the hive unaccompanied by swarms.

Quite late in the season, when I was beginning to pack down for the winter, I was astonished to see an Italian hybrid queen settle on the roof of one of the hives. She was attended by two or three workers, who fed her. After a little time she took a short flight, settled again in the same place, and was still attended by the two or three workers. No other bees took any notice of her. I was busy at the time, and later lost sight of her, but she must have been out of the hive for pretty well half an hour. She seemed to me young; but it was months since my last swarm. She was very quiet, and I could easily have picked her up, and there was no excitement in any of the hives at the time. The sun was shining, and the air warm. I forget the exact date, but it was about the middle or the end of October.—F. T. PAUL.

[10066] As you inviet any other bee-keeper who had a like occurrence (Queries and Replies, November 20, 9898), I am rather surprised that old and practical bee-keepers don't come out and settle this matter once and for all, for I am quite *certain* that it happens very often.

I have written to THE BRITISH BEE JOURNAL to this effect several times, even eighteen years ago, which you will find in BRITISH BEE JOURNAL, November 28, 1901, page 473, under the heading "Queens Lost During Mating Times," which heading is wrong, and ought to be "*Queens Lost During an Airing Flight*," which runs as follows:—

"Last spring" (that is, 1901) "I had about a dozen cases of queens coming out with the bees for an airing, and thus getting lost. I believe that we lose more queens in this way than we think, and blame the winter for it. After being confined to the hive for some time, the first fine, warm day that comes they rush out as if they were swarming, and during this excitement the queen leaves the hive with the bees for an airing, and sometimes gets lost. I found four queens last spring on the ground not far from their own hives, each surrounded by a small cluster of bees. The excitement of the bees at these hives made me suspicious, as I knew by their condition that their queens were only lost. In all these cases I examined the combs, and found brood and eggs in all stages, so that the queens could not have been lost in winter. (I have united some of the queenless stocks found in this condition by merely putting them on the top of next hive without smoke or any disturbance.) Sunday, November 10, same year, being a warm day, and the bees having a good airing, Mrs. Berry remarked to me she had seen a drone coming out of one of the hives, and that something must be wrong with it, but in a minute or two we both saw that it was not a drone, but the queen that had been seen, as she alighted on the entrance board as we watched the hive."—JNO. BERRY, Llanrwst, N. Wales.

[10067] *Re* No. (9898), Queens Leaving Hive. I have seen this take place three times in my life, but only once have I seen the queen fly; twice she only came out and ran about on the flight board. I may say that in my three cases it happened early in April each time. I think there is no reason to suppose that the queen only rarely leaves the hive. If she did go quite often she would only rarely be seen.—ROBT. B. MANLEY.

Large Frames at the Heather.

[10068] A letter (10039), signed "Robin Hood," appeared November 20 *re* large frames and heather.

I have made inquiries, and am told by two separate heather men that the bees do better at heather on the large frames. I have no experience of heather other than what I have read, but can see that it is merely a case of contracting the brood chamber in order to get the required power

above. I should think that a narrow brood chamber would be advantageous myself.

Of course, for success at heather it is necessary to have a June or July hatched queen. A queen that has been laying all through the season would not fill up the brood chamber with brood while at heather as a young one would, and consequently the brood combs would be likely to take the honey instead of the sections.

"Robin Hood" can have names if he likes to write to me.—R. B. MANLEY.

Review.

BEE CRAFT.

Our esteemed contemporary, *Bee Craft*, is rapidly making headway. In its standard of editing and in its general style of production, it is a credit to its publishers, the Kent Bee-Keepers' Association, which is one of the strong pillars of the B.B.-K.A.

As remarked in another contemporary, "size alone does not count in journalism"; and *Bee Craft* certainly merits respect and appreciation. It is worth treasuring in every bee library.

Although the magazine is supplied only to members of the K.B.-K.A., our readers should know that the membership of the Association is not limited to Kentish apiarists, that the membership fee is very moderate, and that it is in the highest interest of progressive bee culture to popularise and develop the *whole* bee literature of the country.

Re-Print of Articles by "Lordswood."

THE DRONE FLY

(ERISTALIS TENAX).

Your correspondent "T." (3022, page 407) asks for information about a fly which, from his description, is, no doubt, the insect named above. This name was given to it by entomologists for their own convenience. They capture, kill, set, mount, and arrange in their cabinets a few specimens, and they must have a name to distinguish it from other species of eristalis. It does not follow that this is its proper name. If the drone fly could talk he would very likely inform us that his proper name is Montmorency Vere de Vere, and that he is engaged in studying the genus Homo baldensis!

In replying to your querist, I hope he will not infer that I am an entomologist. Once upon a time I was. I could spend a week in the heart of a forest, with a net and a few boxes in a satchel, with the greatest delight. Nothing pleased me more than to drop a choice specimen of miniata or albicillata into a cyanide bottle, and watch him flutter into the next world, and then pin him on to a setting board, and gently spread his wings out, and body, and antennæ, and legs into the rightful positions. Aye, it was grand! Counted by hours I must have spent years "setting out" specimens alone! I wonder whether that was wasted time? In some good book it says, if I remember aright, "Lay not up for yourselves moths and butterflies on earth, where rust and dust doth corrupt," etc. Be that as it may, I believe, but for a diabolical combination of untoward circumstances, I should be an entomologist now. Who can hunt for butterflies in city streets or suburban thoroughfares? I am chained like Prometheus to the rock, and my weekly intellectual food is THE BRITISH BEE JOURNAL and bricks!

The drone fly is one of the attributes of summer. The hotter the day the more life pulsates through his tiny veins. When the sun shines he is poised like a hawk over the stifling rides and passages between the enclosures of the forest or woods. Like a hawk or falcon, and yet in the matchless throb of his wings, and magnificent rushes to and fro and sudden stops, he is a thousand times the falcon's superior! He is the humming-bird of the woods, twanging his lute all day long for his sweetheart's ears—the flowers. He is a protégé of the sun, and basks only in his smile. Does the sun sink below the horizon, or even go behind a cloud, and the drone fly settles on a leaf to await his return.

In the autumn, when wild flowers are scarce, he bids farewell to the woods and visits more the gardens, being especially fond of the flowers of golden-rod (*Solidago*) and Michaelmas daisies (asters). He is a very different creature now that the sun's power is on the wane. Cold nights and often wet, sunless days take his energy away, and he becomes a very drone fly indeed. And now I come to the most unpleasant (to us) part of his career. For I have to tell you that in his young days he wallows in all the most terrible stuff imaginable, the same as other dipterous larvæ. He is then an ugly-looking maggot with a rat tail, the tail being really an air-tube, so that he can dive down for oysters amongst mud or excrementitious matter and keep his air-tube held up at the surface so that he may breathe contentedly below. Let us not, however, call him ill names for his early mode of life. He is one of our most useful scavengers, and follows mankind wherever he goes, so that it is impossible to say to what country he belongs.

May he live long to hover as a hawk

and sing as a humming-bird along the glades of our English woods, and crowd on the flowers of golden-rod and ivy, and perchance remind us of our entomogolical days, is the wish of—LORDSWOOD.

Combs from Other Hives.

"AUSTRALIAN WINE AND VINEGAR BEE."

Mirth-provoking items and inquiries have been going the rounds of the papers under the above caption. Even Chambers of Commerce and other trade bodies have seriously undertaken the chasing down of these supposed-to-be-desirable insects. The editor of the *Bee* was as much puzzled as anyone at first. It now develops through the specialists of the U.S. Bureau of Chemistry that these (or this) "bees" is simply "a wild yeast of little value, not as suited for fermentation as the ordinary yeast-cake obtainable from your grocer."

"Bees," in this sense, is believed to be an old English term for fermentation yeast, much as the word "beestings" is used for the first milk of a cow after calving.

The *California Cultivator* gives this word of warning:

Housewives can avoid being stung by 'vinegar bees' or 'beer bees' if they will keep in mind that the product advertised under these and other names is only a wild yeast of little value. Many inquiries recently received indicate that some enterprising individuals and firms are advertising this wild yeast under the names of 'vinegar bees,' 'wine bees,' 'Australian bees,' and various other designations. Extravagant claims are made for the product, and a fancy price out of all proportion to its original cost or actual worth is asked.

"In some advertisements the sellers assert that the substance, when mixed with water and molasses or sugar, will produce vinegar, beer, or wine. Other promoters go so far as to say that the fermented mixture is beneficial in the treatment of rheumatism and kidney trouble—claims which have no foundation in fact."—*The Western Honey Bee.*

Gingerbread.

One and a half cups flour, one and a quarter teaspoonfuls baking powder, one tablespoonful lard or Crisco, three-quarters teaspoonful ground ginger, one egg, half cup honey, half teaspoonful salt. Bake in slow oven.—*The Western Honey Bee.*

Notices to Correspondents

E. F. SIMONS (Great North Road).—*Rhododendron and laurel honey.*—These are not poisonous to bees, but rhododendron honey is sometimes injurious to human beings.

W. S. (Portsmouth).—*Teak for observatory hive.*—Teak is quite suitable for making an observatory hive. It is possible to keep the bees confined for three days, but it is not advisable to do so if it can be avoided.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, Microscopic Slides, Anatomical and Pathological.—73, St. John's Park, S.E.3. x.9.a.

PURE ENGLISH HONEY, in 28-lb. tins, 52s.; tins free.—S. PREECE, 9, Cross Street, Kidderminster. x.10

FOR SALE, two 56-lb. tins pure English Honey, £10; also 30 Sections, 2s. 3d. each.—BATTERSHELL, Copelands, Staunton, Gloucester. x.11

PURE ENGLISH HONEY, granulated, 28-lb. tins, £10 cwt.; tins and case free; sample 6d.—WELLS, Bowers Lane, Isleham, Cambs. x.12

WANTED, 50 standard Brood Combs.—L., 14, Newstead Road, S.E.12. x.13

FOR SALE, 55 lbs. of pure Beeswax (new), 2s. per lb. on rail. Cash with order.—EDGAR CAFF, Hillclose, Grampound Road, Cornwall. x.14

FOR SALE, four Hives, almost new, supers, section racks, combs, etc. Apply for full list.—E. JAMES, 29, St. John's Road, S.W.15. x.15

WANTED, Simmins' "Modern Bee Farm," last edition; Nos. 1 and 2 "Bee World."—STOKOE, Romiley, Cheshire. x.16

A FEW well filled Sections of finest Honey at 3s. each, carefully packed; carriage paid on 1 dozen or ½ dozen orders.—W. WOODLEY, Beedon, near Newbury. x.18

WANTED, portable Greenhouse.—Price and particulars to W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds.

WANTED, Auster rear Wind Screen for motor car.—HERROD-HEMPSALL, as above.

FOR SALE, seven Motor Car Tubes, valves complete, 760 x 90, 9s. each, post free; one Exhaust Whistle, 11s., post free; one Wood Milne Motor Foot Pump, 45s., carriage free; one 760 x 90 Cover, 15s., carriage free; one small Motor Horn, 5s., post free.—HERROD-HEMPSALL, as above.

FOR SALE, pure English Honey, granulated, in 56-lb. tins. What offers? Smaller quantities if desired.—ASHWORTH, Heytesbury, Wilts. x.17

BOX 48. Why anonymous? If *bona-fide*, ample response awaits.—Anon, c/o DAVIES & CO., 23, Finch Lane, Cornhill, E.C.3. x.22

PURE Lincolnshire Honey, granulated, in 14-lb. tins, 2s. per lb., carriage free.—A. HARNESS, Burgh, Lincolnshire. x.21

HONEY, in 28-lb. tins, 52s.; sample, 1s.—Box 55, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. rx.2

PURE light Cambridgeshire Honey, 14-lb. tins, 22s. 6d.; 28-lb. tins, 42s.; tins free; sample 4d. —J. YOUNGER, 6, Maid's Causeway, Cambridge. w.26

BEE-KEEPERS (Guildford and District).—Proposed Association for social intercourse, meetings, etc.—Will those desiring to join please write Box 56, B.B.J. Office, 23, Bedford Street, Strand, W.C.2.? rx.5

STRONG STOCKS of Hybrid Italian Bees for Sale, £3 10s. per stock; also W.B.C. Hives, in good condition, £1 10s. each. Inspection invited. Purchasers must remove. Terms cash.—Apply. COLONEL HARLOW, Remount Depôt, Woolwich, S.E.18. rw.42

APPLES, direct from my orchard, 2d. to 7d. per lb. Special price for large quantities. Stamp for lists.—STEEL, Spring Gardens, West Ashling, Chichester. rw.43

FINEST IRISH HONEY in 7-lb., 14-lb., 28-lb., 56-lb. tins; also Sections.—Write, CRAWFORD, Apiaries, Castlederg, Co. Tyrone. rw.49

CORRESPONDENCE Course in Bee-keeping.—MISS F. E. PALING, Golden Square, Henfield, Sussex. rw.31

WILL all those bee-keepers possessing 25 stocks of bees and upwards kindly send particulars to SECRETARY, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.? v.42

WILL all those who are not in favour of legislation please communicate with Box 48, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2. v.28

GIVE your friends Apples and Nuts for Xmas.—13s. 6d. and 14s. 6d. per bushel of over 40 lbs. from my own orchards.—List from NELSON, West Farleigh, Maidstone. rx.9

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

WORKING PARTNER, with three or four hundred pounds, required. Must be capable of taking sole charge of bee farm when I am absent abroad.—J. C. BEE MASON, 4, Park Place, St. James's, London, S.W.1. x.19

STRONG, comfortable Wicker Chairs, make fine Xmas presents, 16s., 17s., 18s. each.—LITMAN, Basket Maker, Castle-Cary. x.20

"LET THE BEES TELL YOU!"—The Middlesex Hospital needs help—hard cash. We propose to offer for sale 1,000 copies of the above booklet at 2s. per copy, and to give all profits to the hospital. Are you with us?—S. H. SMITH, 30, Maid's Causeway, Cambridge. w.50

LIGHT HONEY for Sale in one and two stone tins, £10 per cwt., carriage forward; tins to be returned carriage forward; sample 4d.—G. NEAL, Mill Road, Freckenham, Ely. v.20

CHAS. J. ASHWORTH wishes to thank those bee-keepers who were purchasers of his surplus Queens and Stocks during 1919, and begs to call attention to his new address for booking orders from January 1, 1920.

CHAS. J. ASHWORTH,
Woodcock House, Warminster, Wilts.

FORTY to sixty Penna Queens will be in use, and no other, in the Queen-rearing Apiary. No queen but a Penna strain will be sent out, except by previous specification.—To all, a Happy Xmas and successful New Year is the wish of yours truly, CHAS. J. ASHWORTH, Heytesbury.—December, 1919.

ITALIAN QUEENS direct from Italy. Price list for 1920 on application.—Address, E. PENNA, Bologna, Italy. w.39

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

Books for Bee-keepers
NOW IN STOCK.

		Postage
Bee-keeping (DR. E. F. PHILLIPS)	10/6	... 6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.E.S.)	1/-	... 1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	... 1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	... 3d.
Dissectible Model of Queen Bee	4/6	... 3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	... 1d.
Honey and Health (A. HOPE) ...	-/6	... 1d.
Honey Vinegar (REV. G. BANCKS)	-/2	... 1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	... 6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	... 2d.
Productive Bee-Keeping (PELLET)	10/6	... 6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.E.S.) ...	2/-	... 3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	... 2d.
Snelgrove's Method of Re-Queening	-/6	... 1d.
The "Townsend" Bee Book ...	2/6	... 2d.
WAX CRAFT (T. W. COWAN) ...	2/-	... 2½d.
Wilke's Book on Swarming ...	1/-	... 1½d.
MISCELLANEOUS.		
Maeterlinck's Life of the Bee	3/6	... 3d.
The Lore of the Honey Bee (TICKNER EDWARDES)	2/-	... 2d.
The Humble Bee (F. W. L. SLADEN)	12/6	... 6d.

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

THE
British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary,

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

Queens Taking an Airing.

We are much obliged to those correspondents who have written on this matter. We think it is now well established that queens do leave the hive after mating, in order to take an airing, and possibly for a cleansing flight, as well as when going with a swarm. It is a view the Junior Editor has held for some time. It will explain many a mysterious loss of queens that has been put down to "supersedure," although the queens were young, and apparently vigorous. It is in these apparently little details that every bee-keeper can do "research" work, for research is not confined to the laboratory or to some large, specially equipped apiary. If every bee-keeper would note and *report* any out-of-the-way occurrence, the sum total of our knowledge would be greatly increased.

The Metal Comb and Metal Foundation.

A demonstration in appreciation of the McDonald aluminium comb was given by Dr. Abushâdy at the offices of the B.B.K.A. last Friday, December 12, between 2 and 4 p.m. There was a very good attendance. Our readers may be referred to the literary notes which have already appeared in the JOURNAL on the advantages and disadvantages of this type of artificial comb.

There is a growing interest also in the metal foundation, and through limitations of space we are obliged again to refer our readers to the detailed notes which appear in the October number of *The Bee World* on this useful invention.

In recognition of the facilities afforded by the B.B.K.A. for the demonstration of both inventions, we have been presented with a limited number of copies of the October issue of *The Bee World* for sale, entirely for the benefit of the Association. Copies of the magazine may be obtained at 9d. each, post free, on application to our offices.

A Dorset Yarn.

Our little bees are now clustering together in their hive homes. We do not see them now, but we know that they have plenty of food to carry on. Each week someone comes who is interested in them. Each time I go away from home someone wants to know of the bees. Most of them tell me they are feeding, or have fed them, liberally this autumn. Mr. Butson, who has charge of the East Dorset bees, gave the young stocks 60 lbs. of sugar that the county sent him; when that was gone he ordered a hundredweight box and gave them that, so the East Dorset bees have plenty of stores. He knows that young stocks on new frames of foundation want a lot of stores to carry on through the winter months. Many old bee-keepers still hold that many stocks go under through want of stores. Mr. Butson is not going to let the East Dorset lot go under for want of food.

It seems that bees will not go a very great distance, even after the heather. As soon as the limes cease their wealth of blossoms and extruding their great weight of sweet sap from the young growths, then the season ends for them; but on the fringe of the heather they carry on until the brood chamber is very heavy. Mr. Butson is in favour of the larger frame. He contends that it is far the least swarming. We are a conservative bee-people. I do not think the present standard frame will be generally superseded by the larger one. It is easy to have a larger brood box to take extra frames, now that the frames for early sections are put into the brood box these are made larger. It is only to lay a piece of cover over the space not covered by supers, the dummy board keeping all correct for warmth. He is also enthusiastic in raising his nuclei in the warmth of the parent hive. He has a new method, which I am not at liberty to fling out to the world of bee-keepers yet, but it is a good one. He is religiously following up all the methods of America, as shown by Root. These, with his long experience in Dorset, must give good results with his own bees, as well as the C.C. lot.

It seems that the ranks of bee-keepers have a great many demobilised soldiers, both commissioned and rankers. One sees at the end of the signatures of the writers the rank that they held in the Army. Many of them have been promoted on the field. One cannot but think that our craft has a great future before it, but why do they not write their great knowledge to the JOURNAL? They give me, both orally and by letter, such descriptive accounts of bees in this and other lands that it would be nice reading for all lovers of bees. All seem to shun the limelight. They are like the American lecturer at the Albert Hall said the last time I was in town, and saw "With Allenby in Palestine"—the land in the good old Book that "flowed with milk and honey." His words are too true. "The Britishers are all too modest

to tell out to their own people what their soldiers did in that country, but must leave it to an American cousin to do for them." The soldier bee-keepers are just the same. Only a very few have written at all of the Holy Land, and that too briefly. It is like my own sons. One has very little knowledge of what they did in their long campaigns.

By the time this JOURNAL is in the hands of readers it will be within a few days of Christmas. I would that all bee-keepers have had as happy a year with their bees as the writer of the "Dorset Yarns" has had with his, even in spite of being nearly killed once. May all be very happy in the joyous Christmas time, and another year bring us greater increase and no disease.—J. J. KETTLE.

Jottings from Huntingdonshire

One advantage of living some seven miles from a station is the invigorating ride one has through the country air before entering what is oftentimes the vitiated atmosphere of a railway compartment. The other day I had an engagement down Middlesex way, and to catch the first train in the morning had to leave home shortly after six. It was dark, the air was keen and the sky clear, and so one couldn't resist gazing at the stars, and, of course, wondering what the bees were like on the inhabited planets. How do I know that planets are inhabited? Well, most of them have an atmosphere of aeriform material, which at once suggests life; and, since our own little orb teems with life, I cannot conceive that all the rest are dead worlds. What kind of bees go buzzing over the plains of Jupiter or the hills of Mars? Do the inhabitants of Venus ever get stung, or the Mercurians have wordy warfare over "Bee Legislation"? Such thoughts go rushing through one's mind as the wheels revolve carrying one to one's destination. What *are* the bees like up there? I don't agree with the theory that all living things on Jupiter must be as larger in proportion as that planet is larger than the earth. It's sheer nonsense. Were it true, Jovian man would need to be of an average weight of 68 tons, and a single bee would be larger than the fattest turkey ever sent to market. For all the theories put forth, life on Jupiter cannot be half bad. Five hours day and five hours night. No strikes up there, I imagine. Their days are short, but their years are twelve times longer than ours. I don't, however, feel attracted to so huge an orb. I wish none the less Jupiter would spare us one of her moons, so that our every night would be moonlit. Little Mars would be more my fancy. She looks wondrous beautiful through a telescope, especially as the snow on her polar mountains vanishes under the influence of solar heat. While the Martian days are of similar length to our own, the years are nearly twice as long. What a honey season they must have! I don't know, but I think, since Mars is such a pretty object, everything on her sphere must be beautiful. I can imagine Martian bees, with red bodies striped with black, flitting among flowers of shades that seem to speak of paradise, and their owners chuckling as the honey is stored without ceasing. Ah! but wait a moment. Mars is one hundred and forty-five millions of miles from the sun. Does that mean the temperature doesn't rise above 60 deg. Fahr.? That sounds pleasant enough, but what about winter? In the northern latitudes it must be often 40 deg. below zero. Ugh! I'll turn my attention to Mercury. But it's always cloudy there—a providence, as Mercury gets at times within 30 million miles of the sun, and but for these clouds—well, 700 deg. in the shade would be the average for a summer's day. That doesn't sound very inviting, and I'm sure bees don't like perpetual clouds, so I'll consider the possibilities of Venus. Her claims are appealing. She is almost the exact size of the earth, her years shorter by 141 days, which days are 23¼ hours long. Long summers and short winters—how lovely it sounds! Venus and bees! "Ah!" says somebody, "that's all very well; but how would you like every night to be as black as pitch? Wouldn't you miss the moon?" Oh, dear, there's allus a summat. But here I am at the station. I drop down from the clouds with a thump. This old world's not so bad, after all. Better be content and stay where I'm placed, turning my attention to battling bee diseases and helping in bee-craft generally. Some of your readers, Mr. Editors, want to know how long it is since the Miocene era, when the 20 ft. long land tortoise walked the earth. Well, it was evidently many, many thousands of years before the history of man, and certainly since a portion of this earth flew off from where the Pacific now is and formed the moon. Let us leave it at that. Please, gentle reader, don't, after reading the above soliloquisings, write and ask me how many stars are visible to the naked eye. I'd far rather you asked me how many bees there were in England at the present time—but don't.

Let us now get into a logical atmosphere. We have had some boisterous winds and rains this last week. Look through your apiaries; maybe rain has been driven

through one or more roofs of your hives. One of mine was penetrated, and I had to change several thicknesses of covering. Fortunately, I pin my faith to coverings of paper over the calico quilt, so that renewal is easy. I must make that roof rainproof, however. What shall I use? Brown calico soaked in linseed oil and nailed tightly down, on which another thickness is stretched and then painted, will resist any weather. But I'm not going to buy any brown calico, on principle. I know that a few yards of calico will cost less than a stock of bees; but as there is not the slightest excuse for the present exorbitant price of brown calico, somewhere between the cotton growers and the drapers, profiteering goes on. I do not feel inclined to encourage it. What I shall use is roofing felt, tightly fastened on so as to be easily moved in the spring. Bees hate black, and if you want to have a hive of bad-tempered bees just give them a black roof, and they'll never forgive you.

I've not seen a bee this week. They're better clustering when the hedges are reeking and the wind blows cold. Yet the weather is really very mild. The bramble hedge along the churchyard is as green as ever it was. It will not turn colour now: its leaves will remain until pushed off by the bursting buds of spring. Somewhere they are getting it pretty cold. For the number of migratory starlings one sees is amazing. These foreign starlings, some almost quite black, others grey, are bigger rogues than our pretty speckled natives, and will work havoc on a field of newly-sown wheat.

Reverting to the subject of medicated candy. It should be understood that "medicated" does not always imply that the candy contains a drug useful in treating "Isle of Wight" disease. There are two ways at least of medicating. One is to add a substance which tends to build up the constitution, and so enable the bees the better to resist the disease; the other is to add a substance which is of a nature to cure a disease. The former method is good; the latter not to be commended where healthy stocks are concerned.

How one's mind rambles on! Having commenced with the stars, I ought not to have ended with medicated candy. *Trahit sua quemque voluptas.*—E. F. HEMMING, Steeple Gidding.

Honey Sponge Cakes.

Two eggs, one tablespoonful butter, one and a half cups flour, half a cup strained honey, half a cup raisins, half a teaspoonful soda. Drop by small teaspoonfuls in buttered tins.—*The Western Honey Bee.*

A Veteran's Experiences.

We started in the dark hours of a mid-winter morning for new employment that I had accepted on the opposite side of our county, Essex, having spent the previous day packing (including four stocks of bees), and the night loading. Early on the journey we found that the arrangements agreed upon had not been fully carried out. The result of this was that I had to walk nearly the whole distance, which greatly aggravated an internal trouble which our doctor had not been able to diagnose. We arrived at our destination at the time agreed upon to commence my work, but in a few days I was too ill for work, many miles from anyone known to me, in a place where even to post a letter involved a three-mile walk. Arrangements were made for me to enter a London hospital, from which I was sent home as incurable some months later. In the interval of waiting to enter the hospital, while hoping for the best, one had to prepare for something less, to search the upper storey for anything that might possibly be stored there, that could be turned to account. The interest that I had taken in bee-keeping, and the experience gained, proved a valuable asset at that time. In thinking out what could be done to turn the bees to account, the first difficulty was that the plot of ground allotted to my cottage was unusually small, by the roadside and on the bank of a pond. On this bank the hives had to be placed; but the bees did not allow the pond to be a barrier. Here they gradually increased for two seasons, and then, as I was feeling the need for more room, a corner of a field was taken. My success apparently caused others to think that bee-keeping was an easy way of making money, for first a man of no occupation in the village went in strongly for bees, his apiary being about a mile, in a bee-line, from mine. Then a new schoolmaster came from a Midland county, bringing with him a stocked "Wells," or double, hive, which he admited had been reported as affected with foul brood during the previous season. The apiaries of these two persons were only a few hundred yards apart, and the first-mentioned having more bees than experience, was obliged by the loan of various things from the second. By the third season he had tired of bee-keeping, and, as he was prepared to dispose of his apiary, I examined the bees with the intention of buying; but the thirteen hives were hotbeds of disease, every comb being largely occupied with the several stages of foul brood, and one of the worst had been robbed. Our doctor,

though not a bee-keper, understood the position, and offered to assist in destroying the bees, but the owner would not allow anything to be done. Shortly afterwards, my own bees became affected with the disease so badly that preventive measures were out of the question. I had then about thirty stocks and a number of nuclei. To shake off all these bees, confine for forty-eight hours, and re-hive, making a bonfire of all infected things, with the combs, and burning out the hives ready for use was a big job, and I had to make two afternoons and evenings of it, being then just able to clean up before re-hiving. When re-hiving the bees, the weaker lots were united, and what a pleasure it was to see the way the bees set about making new homes, with little to fear of trouble from the same direction for the remainder of the season. But in a very short time the bulk of the brood was dying, and falling full length and flabby in the cells. It was evident that on an indifferent day the bees had been on the prowl, and that the larvæ were being fed with infected food, easily obtained. Then I found that a woman living less than a quarter of a mile on the other side of me had just commenced bee-keeping by purchasing stocks in skeps. With some difficulty I got permission to examine them, and found them badly affected with foul brood. I interviewed this person a number of times, but she refused to allow me to assist her in doing what was best, both for her bees and mine, to get her bees into a healthy condition. So all I could do was to stand by and see my combs of brood become foul masses, and, as the stocks became weak and useless, make a bonfire of them. Hives were comparatively cheap then, and when the apiary had dwindled down to the last two stocks and their time had come, and I had suffocated the bees and set them in the centre of a bonfire, I remember that I said to myself, "This finishes the business." It also ended the considerable business that had gradually grown and enabled me to live. At this time the bees, chiefly of non-members of any association, from ten to twenty miles west and north of me were badly affected with foul brood, and I assisted in freeing two apiaries of forty stocks each, and one of sixty of it. In this way I have come across those who had for years been supplying swarms from infected hives. Just before the war I went to the West of England to examine the bees of an apiary offered for sale. There was foul brood in the hives, some of it of old standing. Apparently to suggest that I was over-particular, the man wrote to me a few days later that another firm had bought the bees.—W. Loveday, Chiltern View Road, Uxbridge.

Notes from Gretna Green.

The recent discussion on large brood frames should at least direct attention to the possibilities of working our present standard to better advantage. Mr. S. H. Smith has shown how the best results with least trouble can be assured by giving a young queen and an extra chamber of ten combs of good honey to each colony at the end of August. The young queen and abundant stores automatically ensures an ample number of young bees for winter, and Mr. Smith points out that colonies so prepared are markedly resistant to "Isle of Wight" disease.

A colony of this type requires no attention until May, and will then be found covering all twenty frames of comb, the upper and lower centre combs full of brood, and the side combs more or less heavily stored.

The after management is quite simple if for extracted honey, but less so when sections are being produced. Contraction of the entire population to a single storey filled with brood is almost certain to result in swarming, no matter how many supers are piled on. I have found six racks of sections quite insufficient for these extra-strong colonies.

The correct procedure is to anticipate the swarming impulse by removing eight combs of capped brood and two of stores, with all adhering bees, to form a new colony, giving same a young laying queen. The old stock is supered at once, and the new one when it requires room later on. I have had these divided colonies storing in eight racks of sections during a good season, and neither attempted to swarm. When honey gathering is over, the older queen is removed and the two lots reunited by doubling. The point is that early dividing prevents the strong colony dissipating its energies in swarming, while the autumn reunion concentrates the strength of two stocks in one hive for winter.

That Larger Frame.—I fully believe that a larger brood frame would benefit the bees, and their owner as well, if a producer of extracted honey. But in working for sections conditions are different, and, however much expansion may have taken place previously, once supers are given brood rearing should be limited to the equivalent of nine standard-size combs. This is the limit set by Simmins, and, of course, quite irreconcilable with the use of either a larger brood frame or double-storeyed standards *after section supers are put on.* The larger frame is not suited to heather honey production, as I found out after several seasons' use in the Highlands. I tried close spacing, contracting to six combs, and finally a supplementary brood chamber of shallow

frames placed, with queen and brood on an excluder, over the large deep frames. The latter method gave some surplus, but results were by no means in proportion to the large number of foragers.

The only remedy applicable is to change over to a shallow brood chamber in August, using the ordinary super of ten 5½-in. frames, three or four containing brood, the others "starters" only. This new brood centre is substituted for the large hive moved to a new stand as the heather flow begins. The queen is then found and given to the new colony, which is supered with combed sections in the usual way, and, being confined to a limited brood chamber, is compelled to store the heather honey in saleable form. A young fertile queen introduced to the bees left on the large frames will build up the depleted population, and uniting with the other lot can take place when supers are removed.

Sugar for Bees.—It is fairly safe to prophesy that no sugar will be allotted to bee-keepers during 1920, and a dreadful time is in prospect for the unfortunate bees owned by careless and greedy people. Personally, I would prefer to lose my honey crop in a poor season rather than risk losing my bees by depriving them of the little surplus they might have stored up. Really strong colonies, worked on a judicious system of combined dividing and reuniting, should be at least self-supporting in the worst of seasons.

But the average apiary would need no sugar if, say, one colony in ten was used solely to produce combs of honey for distribution over the other stocks, according to their needs after supers are removed.—J. M. Ellis, Gretna.

[The last paragraph should be read until its lesson is thoroughly learnt. Make a copy in large print, and fix it up where it may always be in sight.—Eds.]

Notes on Bee-Keeping.

One leading entomologist tells us that the honey bee heads the list in the insect kingdom for intellect. When we come to examine the multiplicity of duties the workers have to perform, a kind of "Jack of all trades!" and all conducive to the well-being of a colony, it makes one have a tendency to fall in with the above idea. Within a few hours of emerging from the cells, work seems to be their portion of life, until, with torn and battered wings, they are cast out, of no more use. The worker bee spends the first few days of its existence in acting as nurse to the larvæ. Of course, if there is any comb-building going on it also plays its part in this, and it is here that the worker-bee stands foremost as the most wonderful type of an insect architect and builder. Bee-keepers should bear in mind that it is an absolute necessity that the hive should stand perfectly level before placing a swarm in it, as all combs built by the bees are plumb; therefore, it is essential to adjust the hive with a spirit level, and thus avoid any irregularly-built combs which nullify the advantages of movable-comb hives. The view generally held by bee-keepers is that the bees make the hexagonal form, which we see produced in the cells, while other bee-men state that the hexagonal form is produced by the pressure from the surrounding cells.

Personally I am rather inclined to accept the latter view. If we look at the outermost cells of a comb just commenced, they are circular, also a queen cell is circular; it has no surrounding cells to produce the hexagonal form. Cell cappings seem to be a kind of porous material: this is to allow the immature insect to obtain the requisite amount of oxygen to support its existence. The worker-bee, the smallest in the colony, yet performs the most work. By fanning it keeps the hive ventilated, acts as scavenger by removing deceased members of the community, débris, or any foreign matter that has collected inside the hive, is a soldier, a policeman—in fact, a little vigilance committee of itself. No robber dare venture to try and confiscate its treasure within; if attempted, it is repulsed with the greatest energy. Bees useless through some deformity are mercilessly cast out. In winter the bees seem to form a pear-shaped mass, as seen in a swarm when hanging on a bush, the outside bees going inside the cluster while the bees inside the cluster take their turn with those outside, and so the work goes on in this manner till warmth comes again and the bees move more freely. I sometimes wonder if bees really know their keeper. It is a question that is frequently asked by people outside the craft. I am rather inclined to think they do, especially when the bee-keeper is continually bringing him or herself under their notice. I have two cases before my mind just now. One where a young man came to see my bees out of curiosity. He was simply driven from the hives by the workers. It looked rather curious to see so small insects chasing a man along. I was standing close by without getting a sting; yet they seemed to pay all their attention to him. The second case is where the bee-keeper, a lady, was compelled to get rid of her bees owing to them being so vicious. Of course, she rarely visited them. They used to sting her if she was 50 yards from the hives.

gathering strawberries in her garden. Last autumn I bought three of her stocks, and they are placed about 25 yards off my back door, with a path 15 yards in front, on which I am continually passing to and fro. As I handle them more often than what she did, it's quite possible they are now accustomed to me. There are other cases I could relate, to support this theory, if space permitted.—P. LYTHGOE, Padgate, Warrington, Lancs.

Notes on Bees.

P. Lythgoe says that he has never seen an account in bee books of how the workers are able to tell when the time has come to supersede a failing queen. It is a pity he cannot read the whole of the "Futtersaft" theory expounded in Parson Gerstung's "Der Bien und seine Zucht." In connection with a failing queen it applies thus:—The workers hatched from the eggs laid by the queen three weeks ago are very much more numerous than the grubs they have to tend, which come from eggs laid three or four days ago. The nurse bees are brimming with bee-milk (Futtersaft), and have not enough customers for it. Even the queen takes less than she did, because her expenditure of eggs is less. If there is drone brood, that remains longer in the cells than worker brood, and so still further increases the superabundance of nurses. In some, the chyle glands are relieved by bringing the wax glands into operation, and some of the wax thus produced is used for building queen-cells round selected larvæ. These larvæ also call for more chyle food, and a young queen is produced as inevitably as when the same disproportion between nurses and worker grubs is arrived at on a larger scale in the swarming season. As Gerstung says in one of his most pregnant and, alas, untranslatable sentences, "The life-force which until now has been in the lower stage, is changed to sex-force or queen-cell impulse."

By the way are our readers agreed with Gerstung as to what happens when the other disproportion comes about—a queen whose egg-laying powers are ahead of the nurses? "The result of this disharmony," says Gerstung, "is the balling of the queen, which now and then leads to her death. This sad position is for the most part reached when late in autumn we have replaced an old queen, whose bees are mostly old, with a young and fruitful queen." She lays so many eggs that her step-daughters, mostly past the nursing age, are unable to tend them. "The result is, first the removal of superfluous eggs and finally the balling of this too fruitful queen. The attentive bee-master, when he sees a lot of grubs, yellowish, wrinkled and apparently dead, and on the outer periphery of the brood-nest several eggs in each cell, knows that the hive lacks young bees. A comb of emerging brood restores the harmony between egg-supply and food-glands, and then the stock develops lustily and strong." If the editor likes, when there is more room, I will translate the chapter that especially develops this theory, as it seems to me rather important to keep in mind when one is making artificial increase and starting new queens in the way they should go.—G. G. DESMOND, Sheepscombe, Stroud, Gloucestershire.

[We are always pleased to have articles from the pen of Mr. Desmond.—EDS.]

Brood Hatching Chamber.

In connection with the use of the brood hatching chamber, I made one of these, on the lines of Dr. Abushâdy's article appearing in THE BRITISH BEE JOURNAL, which introduced it, some time last winter, and experimented with it during the late spring and early summer this year. It had several modifications in detail, owing to the scarcity of materials, but the main principles were adhered to and followed out.

At the outset I was disappointed in not being able to give the contrivance a good trial, through the loss, by "I.O.W." disease, of six out of ten stocks during the late winter, which included the best and strongest. [The cause being traced to the importation by a neighbour of an apiary from an infected area into a healthy district, inasmuch as we had been free from "I.O.W." disease for two years: a case which would not have occurred under the protection of the legislation now suggested.] The best remaining stock was not by any means strong, so therefore had to wait a considerable time whilst building up to ten combs.

The difficulty which presented itself to me was the finding of five frames of comb which were well covered with capped brood to put into the hatching chamber, as on the best was a large proportion of eggs and larvæ, in various stages of their development, and though leaving a few adhering bees on each comb to attend to the wants of the young larvæ, it was with some timidity I boxed them up above the nest. The suggestions of Dr. Abushâdy were followed as closely as possible, and the vacant spaces left in the brood chamber below were filled with drawn-out

combs, so that the queen could get to work right away.

In examining after about twelve days had elapsed I found most of the brood, and certainly all that which was capped over when the frames were put in, had emerged, and most of the bees had descended into the brood chamber, but there was still some newly capped brood to hatch out, which I distributed amongst other hives.

Not being satisfied with this first trial, owing to the stock being not so strong as would be desired to give results worthy of the use of the appliance, I proceeded to set it up again for another trial, as now the stock was in a condition that would warrant the placing on of a super, and therefore, I judged, in a fit state to prove the utility of the hatching chamber for the purpose I had in view in making the experiment, viz., the possibility of intensive breeding.

The brood chamber of this stock had now produced three well-covered combs of capped brood, and two others not so well covered. These latter I put into other hives in exchange for better ones, thus making five ideal combs for the purpose, which were placed in the hatching chamber after the vacant spaces in the brood box below had been filled up with new frames of foundation, and allowing not more than fifty bees to remain on the capped combs.

Unfortunately, I have lost the notes I made at the time as to dates and condition of weather; but I remember well being very dubious of results, as the weather became cold and windy, with very few bees flying, and although the box was well covered and made as snug as possible, I had the strong conviction that without the usual clustering bees on the brood there might not be sufficient warmth to hatch the bees out properly, and was therefore anxious when the opportunity arrived to examine them.

The results were better than anticipated. The box contained a large quantity of young bees, for practically the whole of the brood had emerged, the bees evidently remaining, instead of descending through the escape, probably on account of the unsuitable weather detaining the older bees below in their brood nest, and there being little or no commotion through the departing and returning workers. I was particularly struck by the extreme docility of these young bees, as compared with the older bees of the same hive.

These youngsters remained there several days without attempting to get out, apparently well content with the home in which they were born, but eventually they were transferred bodily to another hive to form a nucleus. In the meantime the bees in the brood box below had fully drawn out three of the combs and filled them with brood, eggs, and larvæ, the other combs being partly drawn out.

It is, perhaps, right to mention that a number of these artificially hatched bees were found to have distorted wings, and were unable to fly, but I should not infer that was caused by their somewhat unnatural brooding, or even their voluntary detention in the brood hatching chamber, as the same bees might have been similarly affected in the brood chamber proper, but would not be so easily detected.

Now as a result of these somewhat preliminary trials I came to these conclusions:—(*a*) That, although the weather was unseasonable, the bees during that time were occupied in useful, active work, instead of remaining inactive (except for covering the brood, and a little attendance on the queen), as they would undoubtedly have done, most of their comb space being occupied by brood which would remain there for about ten days before hatching; (*b*) that the queen was able to continue laying, practically uninterruptedly, when otherwise there would have been fewer empty cells available for depositing eggs, thus making an ultimate increase in the number of bees, because I am convinced that under the same conditions, had I employed the means to increase as used in previous years, by placing a super of shallow brood frames directly over the brood nest for the queen to ascend, she would not have done so, owing to the unseasonable weather and the fact that my bees have not always readily taken to this procedure; (*c*) an increase of five to my stock of drawn out brood combs.

These conclusions alone are quite sufficient to satisfy me that the appliance is a useful adjunct to a hive, and will repay the trouble of making and using, apart from other conveniences it may be put to, and I fully intend to continue the use of it.—L. W. Walton, 34, Holme Road, West Bridgford, Nottingham.

December 7, 1919.

Middlesex Bee-Keepers' Association.

Annual General Meeting.

The annual general meeting of the Association was held on Thursday, the 11th inst., at 23, Bedford Street, Strand, W.C.

Prior to the general meeting, a committee was held, when the Chairman, J. B. Lamb, Esq., proposed, in view of the increased activity in the county and

the great demands made upon the already fully occupied time of the Hon. Secretary, Mr. W. Herrod-Hempsall, that Mr. C. W. Mullen be appointed assistant secretary. The proposition was carried unanimously.

The general meeting was largely attended, and after the ordinary business a most interesting paper was read by Mr. R. R. Babbage on "The Need for Legislation." General discussion was invited, and the position of bee-keepers was ably reviewed by Dr. Abushâdy, Mr. Harwood, the Hon. Secretary, and others.

A most enjoyable evening was spent, and with increased membership and a more representative and augmented working committee, there is every prospect of further increase in the work of the Association. The meeting missed the familiar face of the Association's expert, Mr. J. Smallwood, who has undergone a serious operation, and the sympathies of all were accorded by unanimous vote, and it is hoped that Mr. Smallwood may have a speedy recovery.

The following members were added to the Committee:—Mrs. Babbage, Mrs. Hodson, Dr. Abushâdy, Mr. Bahns, and Mr. J. L. Rogers.

A vote of thanks to the Chair concluded the meeting.—C. W. Mullen, assistant secretary, 59, Olive Road, N.W.2.

Sheffield and District Bee-keepers' Association.

There was a very good attendance of members at the monthly meeting of the Association held on Thursday, December 11, at the Tontine Café, Sheffield, over 40 members being present to see a demonstration in candy making by Mr. P. Lawson, who is a practical confectioner. The chair was occupied by Mr. Wm. Ball, vice-president of the Association. The Chairman, in introducing the demonstrator, said that owing to the scarcity of sugar it was imperative that bee-keepers should be able to make their own candy for bees with a certainty of success, and thus avoid wasting sugar in experimenting. He then called on Mr. Lawson to demonstrate on candy making. The demonstrator said that, seeing he was a personal friend of the secretary of the Association, he had taken a keen interest in candy making for bees, and at his invitation he was pleased to be present to show the most simple methods of making candy, and if strictly followed it was almost impossible to fail. Two methods were shown, and both samples were exceptionally fine in grain, and very good. Another sample, which he described as confectioner's fondant, was made and passed round for those present to taste. A great number of questions were asked and satisfactorily answered, the ladies especially being interested in asking questions in reference to sweet making. At the conclusion of the demonstration a vote of thanks to the demonstrator was proposed by Mr. C. M. Hansell and seconded by Mr. P. Ridge, who is an experienced bee-keeper, and he remarked that he had often made bee-candy in pre-war days, but never felt certain of success, but now he felt it was a certainty of success if he had it to make up in future.

Every member present was in favour of legislation on bee diseases, and it was decided to put a resolution at the annual meeting in January, when the feeling of all the members could be recorded.—*Communicated.*

Leicestershire and Rutland Bee-Keepers' Association.

This Association has sent the following resolution to all Members of Parliament in the county:—

To ————, M.P.

Dear Sir,—On behalf of the Executive Council of the Leicestershire and Rutland Bee-keepers' Association we beg to enclose a copy of a resolution passed on October 25, 1919, which we trust will receive your earliest consideration. A similar copy has also been forwarded to Lord Lee, President of the Board of Agriculture and Fisheries.

We respectfully point out that bee-keeping, hitherto regarded in this country as little more than a mere hobby and of small national importance, has now, as a result of the war, become one of the most important of our minor industries, which could, with judicious support, be able to assist very materially in counteracting the shortage of sugar, besides providing one of the most valuable natural foods.

By ensuring the better fertilisation of fruit trees, bee-keeping would also directly contribute to the more abundant production of fruit. The ravages of the "Isle of Wight" disease have, however, resulted in the death of thousands of bee colonies, thus causing much loss to the nation generally and to bee-keepers in particular, frequently through the selfish indifference of persons who, having lost their own bees by disease, leave exposed infected hives and other appliances, as well as the bees which have succumbed to the disease, to act as dangerous sources of infection.

We therefore urge most emphatically the necessity, in the national interest, for taking measures to officially combat the "Isle of Wight" and other diseases incidental to bees, for giving assistance to

restocking schemes, and for generally encouraging the industry in which we and many others are now engaged, and which we believe would provide for many who by the war have been incapacitated from following more strenuous occupations.

We believe that the Board of Agriculture and Fisheries are now considering the advisability of introducing legislation to deal with bee diseases, and if a Bill is brought before the House to deal with such we most respectfully ask you to support it.

We are, dear sir, yours faithfully,
W. G. DUNN, Chairman,
A. BRIERS, Secretary.
27, Winchester Avenue, Leicester.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Bees Transferring Stores.

[10,069] One of the reasons given by the advocates of a larger frame than the standard is to give a greater space for the queen's ovipositing. It *may* not be generally known amongst some of your correspondents who have taken to the craft within recent years that, given a prolific queen, the workers will clear the outer combs of honey, whether sealed or uncapped, and store it in the surplus chamber. I had ocular proof of this fact in 1881. In this year I was using a hive with the two sides and the back of glass; the frames were "The Cheshire," practically the present standard size. There had been a good flow of nectar, and the outer combs I found full of honey, mostly sealed. Having another look in about a fortnight, I was most interested to see all the honey had been removed, and practically every cell was full of brood in all stages. I have seen the same occur in an observatory hive—not the same hive, I opine, as the valued correspondent J. J. Kettle describes in his article of November 6—but where one can see both sides of every comb without disturbance.

It must be admitted that this fact will be evidence against the contention of a larger frame or brood chambers than one gets by using the standard frames; it may be ten or more. Personally, I prefer, and have had in use for many years, a brood chamber containing eleven frames and a dummy; the sides and ends are equal in length, thus giving an equal-sided figure, an advantage, even more so, by having the shallow frame boxes the same size, one can turn the shallow frames when tiering in a contrary direction. By this method the brace combs between the boxes are almost absent, instead of long lines of brace combs irregularly broken, and the danger of crushing bees when placing other chambers under.—JAMES LEE.

Bee Legislation.

[10,070] I venture to trespass on your kindness by accepting your offer to publish letters in regard to the ayes and nays of legislation.

In the first place I am opposed, under existing arrangements, to legislation. Having expressed my opinion, I would like to point out my reason, and that is because we have not a Board of Agriculture that is at all practical. In support of this assertion, let me refer to the work of the Board. I turn up Leaflet 253. On page 7 it reads: "New Treatment of Micro-sporidiosis." — "Recent research has led to the discovery of two drugs which, if fed to the bees with syrup or candy, will cause slightly infected bees to void the parasites, or will destroy them in the stomach and intestines before serious injury is done." So far so good. Chapter 2 of the story continues: A letter was addressed to the Board, asking the names of the two drugs, and if the statement was correct. The reply was that it was correct, but the Board were sorry to say that Dr. Porter, who was the discoverer of the two drugs, had gone to South Africa, and had not revealed their names! Please note this was a public servant. Chapter 3.—Col. W. G. Nicholson, M.P., by request, asked the Parliamentary Secretary to the Board of Agriculture whether he could give, for the information of bee-keepers, the names of the two drugs mentioned on page 7 of Leaflet 253, published by the Board on the "Isle of Wight" disease, and if he could state where those drugs could be obtained and how they should be applied. Chapter 4.—The reply by Sir Arthur Griffiths-Boscawen: "The two drugs referred to by the hon. member are not mentioned specifically in the leaflet, because their use has not gone beyond the experimental stage. The Board is therefore not yet in the position to recommend these drugs for general use."

Thus ends the story, and I leave it to

your readers to say if a Board that is so unsympathetic to bee-keepers as disclosed by the foregoing is a fit body to draft a bill for legislation on bee diseases.

It seems to be that the only way of salvation is to educate the masses of bee-keepers who "keep" bees, but do not understand them. Let us have more bee-keepers keen on the study of the wonderful insect.

Destruction of bees on the same lines as carried out through the Animal Diseases or Swine Fever Orders will not save us: you cannot confine a bee to a certain area, and say: "Thus far shalt thou go, and no further." No, sirs, we must work out our own salvation, unless the Board WILL realise that apiculture is a business. It has taken them 10 years to discover two drugs capable of destroying the parasites—will it take 10 years to reveal their names and proportions?

To the Board it does not appear to matter that thousands of pounds go out of the country each year (*vide* Board of Trade Returns) for honey imported into England which could, and should, be circulated amongst the home bee-keepers. That may seem a point in favour of legislation, but what good is legislation if we get no benefit? If legislation is needed, let it be beneficial to us all, and not confined to the Board of Agriculture and their red tape, plus additional posts for officials.—H. P. YOUNG.

[Our correspondent's letter is a very fair one, and evidently voices his own honest convictions. We would, however, point out that the Board of Agriculture have, by definite action, shown that they do now appreciate the value of bee-keeping, and are anxious to help the industry. Also that the old *régime* and officials without a knowledge of the subject with which they deal are gone.

In view of the ideas expressed in letters already received we would again point out (1) that there is no suggested form of legislation in existence at the present moment; (2) the Bill we printed was given as a sample of previous ideas; (3) surely no sane person imagines for a moment that the wholesale burning of stocks is advocated by those in favour of legislation; (4) legislation is needed, not for the careful bee-keepers, who, for their own sake, will fight disease, but for the person who wilfully, or otherwise, leaves infected material exposed, to be robbed by the bees of the careful bee-keepers. Perhaps our friend has not had our own long experience of trying to educate these obstinate people, or he would realise the hopelessness of his suggestion. It is quite as impossible to force education on to people who do not desire it as it is to control the weather.

Our correspondents do not yet seem to have grasped our idea in starting this correspondence. We want our readers to stick to the point closely. Don't be content with being destructive, but aim at being constructive also. If they object to the visits of inspectors, then they should state the fact concisely. This alone is not enough; they should, again concisely, state what they consider should be the method of procedure.

In this way only shall we be able to come to a mutual agreement *re* legislation.

[10,071] I have read with much interest the various letters in your JOURNAL for and against legislation for the bee industry. At the beginning of last year I was inclined towards it, as for the two years I had kept bees I had seen nothing of the "I. of W." disease, but after closing down seven strong healthy stocks in October, 1918, about three weeks later I saw the first visible signs of it outside one of the hives. In spite of every precaution taken in the way of spraying inside and out with Bacterol, etc., six hives became infected, leaving only one, situated in the centre of the others, free; this hive has done well throughout the summer.

With regard to the other six, three succumbed during the winter, and the remnants of the other three I united into one hive in the spring. The bee expert then paid his usual visit, and advised destroying the lot; but I was not that way inclined, and instead obtained a Penna queen direct from Italy and re-queened, with the result that they became perfectly healthy, and also produced such a strong stock that the bee expert, seeing them again in the autumn, said they could only be wintered on a double brood chamber. They also gave me 30 lbs. of the best of honey. I have seen them out quite recently, and they looked in excellent condition.

Now I conclude that had legislation been in force I should have been compelled to destroy all my bees, with frames and hives, etc., with no compensation.

It seems to me it is not yet known how the bees become infected; there has been no disease lately in the neighbourhood, and my original stock, bought in April, 1917, from Taylor (Herts), was perfectly healthy.

If the disease is infectious, how can it be accounted for that one hive, surrounded by infected ones, remains healthy, all being much of the same strength when closed down?

I may add I sent specimen bees to your office, and they were declared infected

with the disease ("I. of W.").—M. Towns (Miss).

[The above letter only goes to show what we have already contended, i.e., legislation is not needed for careful beekeepers, like our correspondent, who take every precaution to eliminate disease from their apiaries. If all the people who have bees followed her example then we should be as strongly opposed to legislation as we are now in favour of it.

We repeat that legislation does not mean wholesale and indiscriminate burning, and most certainly not the burning of useful hives. It would be just as reasonable to burn a human dwelling where infectious disease had been present, in place of disinfecting it.—Eds.]

Honey Imports.

The registered value of honey imported into the United Kingdom during the month of November, 1919, was £18,694, From a return furnished by the Statistical Offiee, H.M. Customs.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

W. R. J. (Cornwall).—*Feeding bees in skeps.*—(1) We cannot say if bees need feeding without examining them. You must judge by the weight. The total weight of an average skep before packing down for winter should be about 40 lbs. If feeding is necessary, put a cake of candy over the feed hole in top of skep and renew as needed. "Novice" (Finsbury Park).—The bees are native or Dutch with a little Italian.

J. E. C. (Preston).—The candy is too hard. The only remedy is to add a little more water, and boil it up again. About a teaspoonful to each pound would be sufficient.

Honey Sample.

A. Cookson (Longton).—Mainly clover; flavour and aroma spoilt by honey from Ragwort.

Suspected Disease.

G. P. R. (Hanwell).—(1) We are unable to say cause of death. (2) Yes. (3) You will find honey advertised in the Journal. If used for feeding we should at this season prefer it granulated hard, and lay a one, or two, lb. jar on the quilt with the opening close to the feed hole, or you could use sealed sections.

A Cookson (Longton).—No. 1 appears to be healthy; No. 2 shows symptoms of "I.O.W." disease.

A. L. (Cheshire).—So far as we can tell the bees are healthy.

"Acomb" (York).—We do not think the bees are diseased.

C. J. Kelsey (Bristol).—The bees have "I.O.W." disease. The honey is all right for domestic use; do not feed it to bees. You can disinfect frames and combs as you suggest, but it is safer to destroy them.

W. Cox (Dorset).—The trouble is "I.O.W." disease.

Special Prepaid Advertisements.

One Penny per Word.

Will advertisers please read these Rules carefully in order to save trouble, as they will be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* **1½d.** *per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* **3s.** *per ¼in., or* **5s.** *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of* **Driven Bees, Nuclei,** *and* **Queens that are reared or** imported for sale, *are Trade Advertisements, and can only be accepted under trade terms. A charge of 6d. extra will be made if a box number is used.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

100 LBS. LIGHT HONEY in 1 lb. and 2 lb. bottles, divide, 2s. per lb. and carriage.—J. P. HALL, 10, Primrose Hill, Raunds, Wellingboro'. rx.1

WANTED, Huber's "Observations on Bees" (English) and "Bee Master of Warrilow."—G. DAWSON, 463, Manchester Road, Sheffield. x.23

WANTED, Old Bee Books; nothing later than 1814. Lists.—HUXLEY, Sandycroft, Chester. x.24

FOR SALE, one dozen full 1 lb. Sections at 2s. 4d. each, carriage paid; box returnable.—CHALLIS, Borough Green, Newmarket, Cambs. x.25

FOR SALE, 48 Sections, also 14 lbs. Honey from brood combs; all heather honey. What offers?—MIST, Brookwood, Surrey. x.26

FIRST-GRADE SECTIONS, also extracted Clover Honey.—Particulars, NORTH, Cressing, Braintree, Essex. x.27

THE GRAMOPHONE RECORD EXCHANGE will exchange Records 5s. dozen; return postage free.—Address, 6, Rood Lane, London. Particulars stamp. x.28

WANTED, Geared, or Cottage, Honey Extractor, in perfect order.—Price and particulars to SCOTT, Temple House, Kennington, Ashford, Kent. x.29

WANTED, new Cycle Chain, 1 in. pitch by ¼ and 5 ft. 6 in. long, twin roller, or block.—Price to A. J., B.B.J. Office, 23, Bedford Street, Strand, W.C.2. x.32a

10 SECTION BOXES containing 24 sections, 5 in. by 4 in. by 1⅞ in., with nine fence separators, holders, and block-spring, complete, new; price 10s. 6d. each, or £5 the lot. Thoroughly well made, and will satisfy the most exacting bee-keeper.—S. P. SOAL, Scratton Lodge, Brook Road, Prittlewell, Essex. x.30

PURE SCOTCH HONEY for Sale; heather, clover and a delicious heather blend.—Particulars from LINDSAY & FENWICK, Perth. x.32

A FEW well filled Sections of finest Honey at 5s. each, carefully packed; carriage paid on 1 dozen or ½ dozen orders.—W. WOODLEY, Beedon, near Newbury. x.18

WANTED, portable Greenhouse.—Price and particulars to W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds.

WANTED, Auster rear Wind Screen for motor car.—HERROD-HEMPSALL, as above.

FOR SALE, seven Motor Car Tubes, valves complete, 760 x 90, 9s. each, post free; one Exhaust Whistle, 11s., post free; one Wood Milne Motor Foot Pump, 45s., carriage free; one 760 x 90 Cover, 15s., carriage free; one small Motor Horn, 5s., post free.—HERROD-HEMPSALL, as above.

HONEY, in 28-lb. tins, 52s.; sample, 1s.—Box 55, B.B.J. Office, 23, Bedford Street, Strand, W.C.2. rx.2

PURE light Cambridgeshire Honey, 14-lb. tins, 22s. 6d.; 28-lb. tins, 42s.; tins free; sample 4d. —J. YOUNGER, 6, Maid's Causeway, Cambridge. w.26

BEE-KEEPERS (Guildford and District).—Proposed Association for social intercourse, meetings, etc.—Will those desiring to join please write Box 56, B.B.J. Office, 23, Bedford Street, Strand, W.C.2.? rx.5

CORRESPONDENCE Course in Bee-keeping.—MISS F. E. PALING, Golden Square, Henfield, Sussex. rw.31

WILL all those bee-keepers possessing 25 stocks of bees and upwards kindly send particulars to SECRETARY, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.? v.42

WILL all those who are not in favour of legislation please communicate with Box 48, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2.? v.28

GIVE your friends Apples and Nuts for Xmas.—13s. 6d. and 14s. 6d. per bushel of over 40 lbs. from my own orchards.—List from NELSON, West Farleigh, Maidstone. rx.9

BUSINESS ADVERTISEMENTS.
1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

ITALIAN QUEENS direct from Italy. Price list for 1920 on application.—Address, E. PENNA, Bologna, Italy. w.39

THE XMAS MIDDLESEX HOSPITAL FUND.—Thank you! one and all. We did not dream we had so many friends. This is our last appeal, and we shall announce the result in our next.—S. H. SMITH, 30, Maid's Causeway, Cambridge. x.31

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 1s. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

Books for Bee-keepers
NOW IN STOCK.

		Postage
A Modern Bee Farm	7/6	... 6d.
Bee-keeping (DR. E. F. PHILLIPS)	10/6	... 6d.
BEE-KEEPING SIMPLIFIED FOR THE COTTAGER AND SMALLHOLDER (W. HERROD-HEMPSALL, F.R.S.)	1/-	... 1½d.
BEE-KEEPERS' PRACTICAL NOTE BOOK (T. W. COWAN)	1/-	... 1½d.
BRITISH BEE-KEEPERS' GUIDE BOOK (T. W. COWAN) (paper covers only)	2/6	... 3d.
Dissectible Model of Queen Bee	4/6	... 3d.
FERTILISATION OF FRUIT BLOSSOMS BY BEES (T. W. COWAN)	-/3	... 1d.
Honey and Health (A. HOPE) ...	-/6	... 1d.
Honey Vinegar (REV. G. BANCKS)	-/2	... 1d.
How to Keep Bees (ANNA B. COMSTOCK)	5/-	... 6d.
Management of Out Apiaries (G. M. DOOLITTLE)	2/6	... 2d.
Productive Bee-Keeping (PELLETT)	10/6	... 6d.
PRODUCING, PREPARING, EXHIBITING AND JUDGING BEE PRODUCE (W. HERROD-HEMPSALL, F.R.S.) ...	2/-	... 3d.
Queen Rearing in England (F. W. L. SLADEN)	1/6	... 2d.
Snelgrove's Method of Re-Queening	-/6	... 1d.
The "Townsend" Bee Book ...	2/6	... 2d.
WAX CRAFT (T. W. COWAN) ...	2/-	... 2½d.
Wilke's Book on Swarming ...	1/-	... 1½d.
MISCELLANEOUS.		
Maeterlinck's Life of the Bee	3/6	... 3d.
The Lore of the Honey Bee (TICKNER EDWARDES)	2/-	... 2d.
The Humble Bee (F. W. L. SLADEN)	12/6	... 6d.

British Bee Journal & Record Office,
23, BEDFORD STREET, STRAND, LONDON, W.C.2.

THE
British Bee-Keepers' Association.

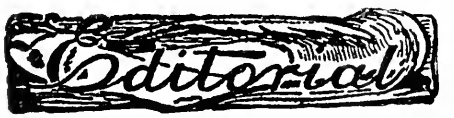
The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary,
W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London, W.C.2.

The 'Kent' Standard Model Hives & Appliances

TESTIMONIAL. *May* 12.

DEAR SIR,—I have had an opportunity of comparing the material and workmanship of your hives with others on the market, and in my opinion there is no sort of comparison between the two, yours being altogether superior in every particular.—Yours faithfully,——

S. J. BALDWIN, Stanley Road, Bromley, Kent.



Christmas Greetings.

As this issue of the BRITISH BEE JOURNAL is dated Christmas Day, we take the opportunity of greeting our readers with the time-honoured wish for A Happy Christmas, and may the coming year be one of prosperity to both bees and bee-keepers.

The Development of the Apis Club.

We do not recollect that so much interest in the development of British bee-keeping on progressive lines, as is being exhibited at present, has ever been displayed before. The Government Re-Stocking Scheme, whatever its shortcomings may be, has certainly succeeded, apart from its original function, in creating a great popularity for the craft. The result is that many recruits are added monthly, the whole agricultural press, and even the weekly and daily press, is showing an ever-growing interest in dealing with bee-keeping problems and literature. Some bee farmers, in the real sense of the word, are beginning to appear, and our breeders and manufacturers are busier than ever, and hardly finding any difference in the rate of their activities between the working and the "resting" seasons.

A sign of the times is the development of the bee literature of the country and the growing appreciation of research work, independent of official guidance. It is certainly in the highest interest of progressive bee-keeping that such a healthy spirit should not only be maintained but encouraged by every possible means. As the oldest bee periodical in the country with the leading circulation, we have considered it our duty to spare no effort in this service. For the very same reason we have been asking for helpful legislation, which should be speedily introduced for the protection of the craft, if a discouraging reaction is to be avoided, and we have impartially opened our columns for the thorough discussion of the subject.

We have much pleasure now in giving the scheme of the *Apis Club* the repeated publicity which it merits, and cannot do better than refer our readers to the notes given in the September and October issues of *The Bee World*. The questions involved deserve the immediate consideration and support of ALL our Associations, not in the form of resolutions and letters of sympathy, but by tangible co-operation. The opportunities of the annual general meetings are fitting occasions for dealing actively with this question. International apiarists abroad can see for themselves the advantages of the independent and powerful development of the *Apis Club*. By devoted co-operation and the enthusiastic recognition of a dutiful service towards a free ideal aiming at the regeneration and uplifting of the craft, can alone such ideal be achieved. The British bee community should be worthy of the task.

Notice.

The subscriptions of many of our readers expire at this season, and we shall be greatly obliged if they will let us know as soon as possible if they wish to continue with the "B.B.J." We hope they will all do so, and, if possible, recommend the paper to and obtain new subscribers. There has been, during the past year, a much greater interest taken in bee-keeping. No doubt this will continue during the coming year, and there will be many recruits to our ranks. It is necessary that those who take it up should do so on up-to-date lines, and keep up to date by taking in a paper devoted to bee-keeping. Failing any order of renewal the paper will be discontinued. We are only printing a very small margin over the copies actually ordered; therefore, to prevent disappointment, orders and subscriptions should be sent as early as possible. We do not run anyone into debt, and the paper is stopped as soon as the subscription expires. An order form will be found on the back page of the cover.

The Truth about "Tanging."

Some years ago, primed with the teaching of the text-books, I looked upon the practice of "tanging," or ringing swarms, as a quaint old custom of no real value. I was wrong; and so are the hundreds of bee-keepers to-day who talk of "tanging" as an "old wives' tale."

Let me set down the reasons for my faith in "tanging," and a tentative theory which may possibly explain the help to the bee-keeper that "tanging" gives.

About five years ago, when I had as yet no notion as to how to control them, my Cyprian-Italian bees used to have the habit of swarming incessantly. Many swarms were lost, and, but for the care of a gardener, the losses during my absence would have been much more serious. Luckily for me, again and again, this friend-in-need

came to the rescue and captured my swarms.

One day, quite by chance, I happened to say, "Why do you tang? It is no good. All the best bee books say it is useless." He declared it was useful, and, when I quoted the bee experts to the contrary, he persisted in his belief. Well, as luck would have it, not many days after our talk, when both he and I were at home, the bees came out.

"Now watch," he said. And, sure enough, as he "tanged," the bees came towards him. Literally, he *drew* those bees with the note he made, and, soon after, the whole swarm came down from the air, and clustered on a small apple tree. Now, from that day I began to suspect that "tanging" was something more than a quaint custom, and, after many similar experiences, I am prepared to assert that "tanging" *draws* swarming bees and *causes them to settle*. Why is it?

My theory may be wrong, but it is perhaps worth putting down.

(*a*) *Why does the ringing note of the "tang" draw the bees?*

Is the truth perhaps that, when bees swarm, they are sympathetically united by the vibrations of a note given out by the queen, and taken up and sustained by all the individuals of the swarm? Every bee-keeper knows the swarming note, and the rhythm of its rise and fall enables even him often to share the elation of the bees.

But strike a new ringing note, when a swarm is out, and mostly this happens: As the bees catch the note they will begin to fly towards you. I have known individuals come and settle on the metal, and even be killed by the descending key. Is it that they mistake the note-giving object for a note-giving queen? Do they die under the descending key in their attempt to find her? I am not sure yet; but if bee-keepers would experiment we should come to understand. In the meantime, the power to draw swarms on the wing ("I can draw them almost anywhere," said one acquaintance to me) is no small boon, in these days of furiously swarming foreigners. It may mean racks of honey saved, as well as a growing interest in the personality of the little bee people.

(*b*) *Why does the ringing note of the "tang" make the bees settle?*

May I suggest that the foreign note of the "tang" distracts the bees. The artificial queen-note rings into their delicious hum, and soon they are at sea. "Which is the right note? Which is our queen's note? Where is she? What has happened?" So, like wise little people, down they come and cluster on a neighbouring bush or tree.

Experience seems to show that, if the "tang" is clear and the bees are not too high in the air, you will get your swarm. But, here again, we need more experiences to give us an accurate understanding.

Is it too much to ask bee-keepers to test "tanging" anew in 1920, and to estimate its value by the actual results?—G. D. C., Lower Beeding.

Somerset Bee-Keepers' Association.

FROME AND DISTRICT.

The first of the three lectures arranged under the auspices of the Somerset County Council was given in the Museum of the Science and Literary Institute, Frome, on December 12, 1919. The lecture was given by Mr. L. Bigg-Wither, first-class expert, and Secretary to the Somerset Bee-keepers' Association.

Chairman, the Rev. Arnold Cook.

The subject was "The History of the Honey Bee."

There was a large attendance, and the lecture was fully illustrated by lantern slides, which included a young queen emerging from her cell, eggs and larvæ of different ages, photo-micrographs of the bee's foot, legs, wings with the hook attachment, tongue, sting, etc.

Questions were asked at the close of the lecture, and the interesting answers were fully appreciated.

A hearty vote of thanks was passed to the lecturer.

The second and third lectures will be given in the Council Schools, Frome, on January 8 and 15. Lecturer, Mr. L. Bigg-Wither.

All interested are cordially invited.—E. G. Hawkins, Hon. Sec.

Questions, etc., for Bee-keepers for Self-Examination.

(*Students are recommended to write their answers, and check them afterwards by reference to books.*)

433. What distances apart, from centre to centre, should frames in a brood box, and those in a super, respectively, be placed? Explain the difference, if any.

434. How frequently does a larva shed its skin?

435. What are the indications that a colony is about to swarm?

436. Describe a cage for use in re-queening, and explain its use.

437. In what circumstances are cells which have pollen in them sealed over?

438. Account for the differences in colour in newly-made comb.

439. Within what extremes may the

temperature of the body of a bee vary without causing the death of the bee?

440. Give reasons for and against uniformity in the colour of hives in an apiary.

441 Make a list of the sources of pollen found by bees in your locality, and state the colour of the pollen in each instance.

442. Make notes for a 15-minute lecture on "Bee-keeping, by Empirical Methods Only." J. L. B.

CORRESPONDENCE.

Bee Legislation.

[10072] The question of legislation with respect to bee diseases is undoubtedly one of great importance and one which should be examined from every point. The query arises:—Is this a suitable time? One of the principal troubles to be legislated against is, of course, the "Isle of Wight" disease, and after all our experience our knowledge of it is only vague. Experts are by no means agreed as to its cause, or the sources of infection, and until some absolute and indisputable knowledge is obtained, I think it would be unwise to rush into legislation. It is easy to order the destruction of property, but will this be beneficial? Will it not rather act as a deterrent to many small bee-keepers? The country is at present suffering from a surfeit of legislation, and before adding to it, let us be assured of the benefits. For the past two seasons my bees have prospered on combs on which the previous colonies died of "Isle of Wight" disease, and within bee-flight of several infected hives. This seems to prove that either in this disease combs and quilts do not carry infection, or that my method of treating them destroyed the germs. I think I may safely say that we have passed through the worst of the scourge, and those who persevere after repeated losses are true lovers of the craft.

Apart from the consideration of their own pockets, every bee-keeper will do his utmost to keep his own stocks in health, using precautions which were rarely thought of ten years ago. With the knowledge gained recently by individuals, it seems improbable that there will ever be such an epidemic of any disease among bees again.

Of foul brood I have, fortunately or otherwise, had no experience, but from what I read I gather that it is as likely to be spread by a careless official as by any other means.

It behoves every bee-keeper, then, to ask himself: Do I wish my bees to be liable to inspection at any time, in season or out, by a qualified or unqualified official, in my presence or otherwise, with possible restrictions on the moving of my hives? And if I winter some indoors, is the official to have free access to my house at any time?

I should be the last to oppose legislation were I persuaded that it was necessary, practicable, and beneficial. I propose that should this course be deemed advisable, though I am of opinion that more could be done by propaganda, all "orders" should be submitted to and agreed upon, by some central body, whose one interest is bees, say the B.B.K.A., before being issued to the local authorities. Also, that every bee-keeper should have the right to appeal to this central body in the event of alleged harsh treatment. This would create confidence and curb over-officiousness.

The management of bees varies greatly in our changeable climate, and looking through my old diaries I am astonished sometimes to note the different dates on which the same operation has been performed. I tremble to think of what our case would be were we ruled by red-tape officialdom. And who can say to what such a Bill as you print this week will ultimately lead?—A. C. Grimshaw.

55, Queen Square, Bristol.

The Brood-Hatching Chamber.

[10073] Commenting on the critical and able article by Mr. L. W. Walton on the use of the *Brood-Hatching Chamber*, perhaps you will be good enough to allow me to repeat one or two remarks.

The success of this appliance is entirely dependent on the discretion of the bee-keeper in safeguarding that the degree of incubation is proportionate to the strength of the colony and to the nature of the season. That I consider the incubation at one time of five combs of capped brood during the height of the season, and under the care of a strong colony a safe maximum does not mean that it is also a safe minimum, even under favourable conditions. These are elementary principles in modern bee-keeping which need no elaboration.

The appliance is made of detachable parts, and the central compartment may be contracted at will by bringing its walls nearer together or by partly reserving in it combs of honey which need ripening, and which may prove a good investment to the bee-keeper if returned to the needing bees by the end of the season.

I have not met with distorted wings in

emerging bees under independent incubation, whether by means of utilising the hive warmth or by means of a biological incubator, although the variable humidity in the latter needs regular attention in order to safeguard against failure, whereas the bees in their hive economically undertake this task.

Paring the 1919 season I utilised no less than twelve B.H.C.s. Its gratifying results led me to order the balance of one hundred for the coming season. The technique of the method is quite simple. It is nothing other than common-sense management, and therefore should never fail in the hands of the observant bee-keeper.—A. Z. ABUSHADY.

Special Prepaid Advertisements.

One Penny per Word.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

SURPLUS CANDY, medicated, 9½ lbs. What offers?—E. C. BECK, Nubbock Farm, Hexham. x.33

50 SECTIONS, clover and heather.—Stamp for price and particulars, W. FORBES, Rheeves, Forres, Morayshire. x.37

FOR SALE, a small quantity of nice flavoured Light Honey, granulated, quite solid, in 7, 14 and 28-lb. tins; prices, 13s., 22s. 6d. and 43s. respectively, free on rail, packed in returnable crate.—R. B. MANLEY, Brightwell, Wallingford. x.34

RE LOST MOTIONS AND OTHER THINGS.—No queen bee prizes this time, but we will send a "pretty" to any bee-keeper (or bee-keeperette) who forwards the correct answer by January 3, 1920, to the following query:—"What is the last thing you take off before going to bed?"—SMITH, 30, Maid's Causeway, Cambridge. x.35

WANTED, Old Bee Books; nothing later than 1814. Lists.—HUXLEY, Sandycroft, Chester. x.24

THE GRAMOPHONE RECORD EXCHANGE will exchange Records 5s. dozen; return postage free.—Address, 6, Rood Lane, London. Particulars stamp. x.28

WANTED, new Cycle Chain, 1 in. pitch by ⅛ and 5 ft. 6 in. long, twin roller, or block.—Price to A. J., B.B.J. Office, 23, Bedford Street, Strand, W.C.2. x.32a

PURE SCOTCH HONEY for Sale; heather, clover and a delicious heather blend.—Particulars from LINDSAY & FENWICK, Perth. x.32

A FEW well filled Sections of finest Honey at 3s. each, carefully packed; carriage paid on 1 dozen or ½ dozen orders.—W. WOODLEY, Beedon, near Newbury. x.18

WANTED, portable Greenhouse.—Price and particulars to W. HERROD-HEMPSALL, Old Bedford Road, Luton, Beds.

WANTED, Auster rear Wind Screen for motor car.—HERROD-HEMPSALL, as above.

FOR SALE, seven Motor Car Tubes, valves complete, 760 x 90, 9s. each, post free; one Exhaust Whistle, 11s., post free; one Wood Milne Motor Foot Pump, 45s., carriage free; one 760 x 90 Cover, 15s., carriage free; one small Motor Horn, 5s., post free.—HERROD-HEMPSALL, as above.

BEE-KEEPERS (Guildford and District).—Proposed Association for social intercourse, meetings, etc.—Will those desiring to join please write Box 56, B.B.J. Office, 23, Bedford Street, Strand, W.C.2.? rx.5

CORRESPONDENCE Course in Bee-keeping.—MISS F. E. PALING, Golden Square, Henfield, Sussex. rw.31

WILL all those bee-keepers possessing 25 stocks of bees and upwards kindly send particulars to SECRETARY, B.B.K.A., 23, Bedford Street, Strand, London, W.C.2.? v.42

WILL all those who are not in favour of legislation please communicate with Box 48, BEE JOURNAL Office, 23, Bedford Street, Strand, W.C.2.? v.28

GIVE your friends Apples and Nuts for Xmas.—13s. 6d. and 14s 6d. per bushel of over 40 lbs. from my own orchards.—List from NELSON, West Farleigh, Maidstone. rx.9

BUSINESS ADVERTISEMENTS.

1½d. per word.

COMFORTABLE APARTMENTS for Brother Bee-keepers.—Full board residence, 7s. per day.—HORSLEY'S, Merridale, Top of Castle Drive, Douglas, Isle of Man.

HAVE YOU READ "THE BEE WORLD"? If not, why not? Every number in itself is a useful literary work for practice and reference. Specimen copy free.—Offices: THE APIS CLUB, Port Hill House, Benson, Oxon.

THANKS TO OUR KIND FRIENDS we have been able to forward a cheque for £12 4s. to the Middlesex Hospital, and more donations have come in since. Merry Xmas to all.—S. H. SMITH, 30, Maid's Causeway, Cambridge. x.36

ITALIAN QUEENS direct from Italy. Price list for 1920 on application.—Address, E. PENNA, Bologna, Italy. w.39

The 'Kent' Standard Model Hives & Appliances

TESTIMONIAL. *May 12.*

DEAR SIR,—I have had an opportunity of comparing the material and workmanship of your hives with others on the market, and in my opinion there is no sort of comparison between the two, yours being altogether superior in every particular.—Yours faithfully,——

S. J. BALDWIN, Stanley Road, Bromley, Kent.

The certain cure for and Preventative of "Isle of Wight" disease. **'BACTEROL'** Proved by Bee-keepers generally after testing on the most hopeless stocks.

Manufactured by "Bacterol" Limited, London, N.

MENLEY & JAMES, LTD., MENLEY HOUSE, FARRINGDON ROAD, LONDON, E.C.